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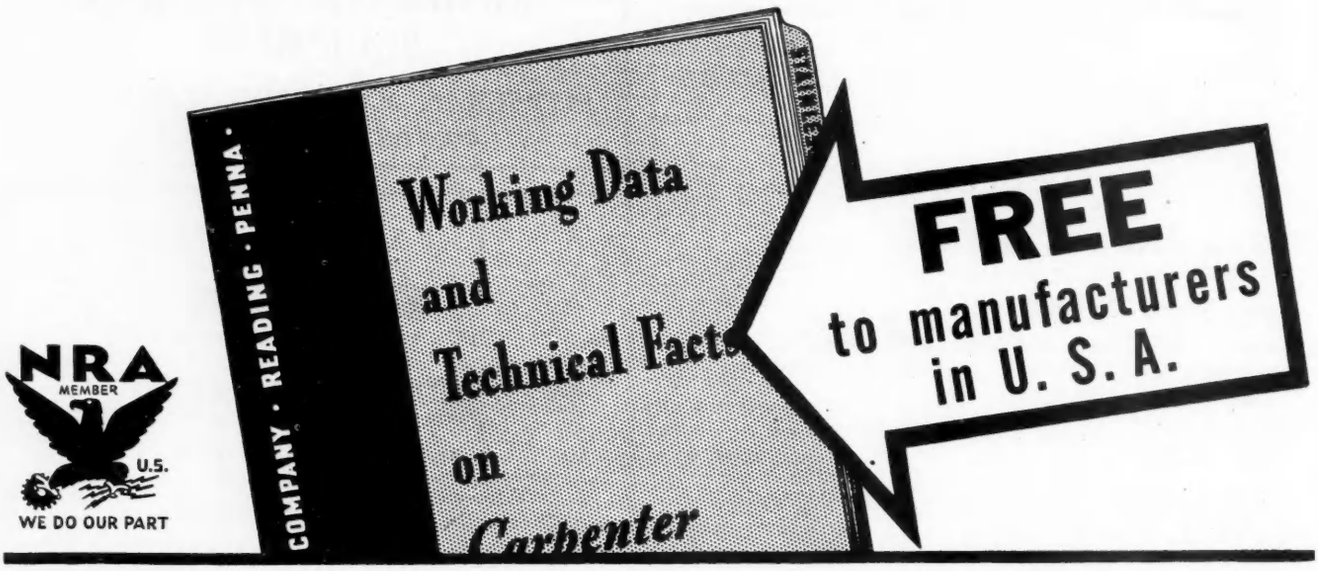

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AUTOMOTIVE INDUSTRIES

Vol. 69, No. 14 • THIRTY-FIFTH YEAR • September 30, 1933

Works Councils for Automotive Workers?

A frank and timely discussion of one of the important questions with which the industry is confronted under N.R.A.

by Norman G. Shidle

COLLECTIVE bargaining between representatives of employees and employers must take place under N.R.A. code provisions when, as and if desired by employees of a particular company.

Whether employees will choose men from their own ranks to represent them in that collective bargaining or whether they will choose outside union officials probably will depend on the desire recorded by the employees of the particular plant at the time a specific demand for collective bargaining first occurs. The choice of the employees in the matter doubtless will be final.

These two blunt facts arise clearly out of the welter of interpretation, analysis and controversy which has centered about the much-argued labor clause which appears by law in all N.R.A. codes.

The problem, then, which faces the average automotive manufacturing company—which always has had good labor relationships based on good wages, honest intent and sincere application of fair play on the part of the management—is whether or not an attempt to set up at this time a plan of employee representation where it has not existed before will help or hinder the effort to preserve harmonious relationships with its workers.

Any plan of employee representation inaugurated merely as a protective measure against some other form of labor organization is obviously doomed to well-deserved failure. Practically all automotive men seem to regard that as axiomatic. Their study of all past experience with employee representation in the United States points clearly to fair intent and honesty of purpose as essentials if any such proposal is to have even a small chance of success.

It is an open secret that every automotive manufacturer would rather deal with representatives chosen from within the ranks of his own employees than with outside labor union representatives.

WHETHER employees will choose men from their own ranks to represent them or whether they will choose outside union officials, probably will depend on the desire recorded by the employees of the particular plant at the time a specific demand for collective bargaining first occurs.

It is an open secret that every automotive manufacturer would rather deal with representatives chosen from within the ranks of his own employees than with outside labor union representatives.

And so, many executives are particularly interested in examining the various forms which employee representation plans may take, in checking up on the methods which already have been worked out successfully, and in tuning-in on the experiences of executives of plants where industrial representation programs have been in existence for many years.

Such executives will find much that is helpful in the accompanying article which is based on a comprehensive survey of works council activities in many different industries.

The potential necessity for collective bargaining raises a question as to how management and men may best be linked—through a works council or a union

Works Council or Union?

American Federation of Labor spokesmen, naturally, lay that preference to desire by the manufacturer to dominate all conferences and say that no employee, for fear of losing his job, can possibly speak with the bluntness and power necessary to obtain labor's just rights.

Despite a generally high wage scale and relatively satisfactory labor relationships throughout automotive history, it is true, unfortunately, that examples of unfair practice have existed, just as in every other manufacturing industry. Sufficient examples of unfairness to labor can be unearthed by anybody willing to investigate to make impossible any blanket statement entirely confirmatory of management's universal square-dealing and integrity in labor dealings.

The labor provisions of the N.R.A were evolved and definitely aimed at this minority group—which exists in every industry.

Unfortunately, the provisions have had some tendency to create an unsettled condition in the psychology of all employees and employers, tending to upset to some extent industrial relationships even in plants where the status quo has been reasonably satisfactory to both in the past.

The industry is divided, at the moment, in its thinking about the potency of employee representation plans. Prior to N.R.A., no strictly automotive company had employee representation, although International Harvester Co., Landis Tool Co., Lincoln Electric Co., United States Rubber Co., Goodyear Tire & Rubber Co., a number of oil companies and others allied with our industry have been using such plans successfully over a long period of years.

Since N.R.A., however, practically every automotive plant has given some thought to the possibilities of such a plan and several companies, notably Chevrolet and a number of other units of General Motors Corp., have actually inaugurated a system of employee representation.

The representation programs which have been set up in various General Motors units differ in details from one another and there is no General Motors Corp. plan as such. The general scheme of these plans, however, bears considerable resemblance to that which has been so satisfactory in the various plants of the Bethlehem Steel Co. for a number of years.

Undoubtedly there would be a good many more employee representation plans inaugurated in automotive plants, were many executives not afraid that their motives would be misinterpreted. Having talked confidentially with a great number of leading automotive executives recently, we are fully convinced that far less than one per cent actually are unwilling to meet and talk over with representatives of their own employees problems affecting their mutual welfare. Practically every one is thoroughly sincere in his desire to be fair in practice as well as in theory. Were the suggestion for a works council or employee representation plan to come from employees, we venture the guess that the presentation would be welcomed by the managements of a majority of automotive plants.

There is a general feeling that Mark Sullivan was correct when he wrote in his syndicated column the other day that:

"In all industry, big and little, labor is to be organized and all bargaining is to be collective. This is the first step in a process designed to bring further change in the organization of industry. The process may be modified by the courts or it may be modified by Congress next January or later. For the present, as regards the N.R.A. the process is in full swing."

And so, many executives are peculiarly interested in examining the various forms which employee representation plans may take, in checking up on the methods which already have been worked out successfully, and in tuning-in on the experiences of executives of plants where industrial representation programs have been in existence for many years.

An employee representation plan is not a "company union."

An employee representation plan may be defined as an orderly means of permitting the management and the workers of a given factory to meet and discuss problems of mutual interest, the employee representatives being duly elected from among the workers of the given plant.

The term "company union" is more properly applied to an organized labor union, the membership in which is confined to the employees of an individual plant instead of being made up of craft representatives from various plants. The railroad brotherhoods offer an outstanding example of what properly may be called a "company union." The vertical organization by plants which the A.F. of L. now proposes to use in attempting to organize automotive

(Turn to page 401 please)

Just Among Ourselves

It is Like This, And Then, Again—

CODES still are flying so thick and fast that we can just barely keep track of all the automotive angles which are being argued in Washington let alone claim bedside familiarity with the current status of all the details. The N.A.C.C. code is the only automotive code finally signed, sealed and delivered thus far and even that has gone into action with several question-marks hanging on its belt. The dealer code is being argued as we write, modification of the original trading clause happily appearing to be probable.

One N.A.D.A. code paragraph would provide that it shall be unfair trade practice for any dealer to sell parts or accessories at other than retail price except to duly authorized dealers, associates or subdealers or authorized service stations operating under an NRA code. If that proposal goes through fleet owners and insurances companies will be as blue as the NRA eagle. Independent repair shops could still get a discount from car dealers—that is, just as well as in the past, if you know what we mean.

Trying to keep *en courant* with code affairs among parts and accessory manufacturers we are reminded that Will Rogers said the other day:

"Never was a country in the throes of more capital letters than the old U.S.A. But we still haven't sent out the S.O.S.!"

The A.P.E.M., representing the parts and accessory industry in code matters, has just declared that its members should regard the N.S.P.A. as the after market activity division of the new association. The M.E.M.A. still is debating final action as regards merging with the A.P.E.M. To understand the full implications of the present contending forces, of course, one might have to review the past with reference to the A.E.A., the M.A.M.A., and the M.E.A., not to mention need for knowledge of the functioning of the present M.E.M.A.

So you see . . . ?

* * *

It Is In the Air

THERE is real interest and active experimental work these days regarding cooling and air conditioning of automobile bodies. We are willing to hazard the guess that as early as 1935 some such device will make its appearance as standard equipment on some American car model. Maybe we will miss our guess by a year or so, but it's coming.

At least two passenger car companies are experimenting actively with air-conditioned car bodies, rumor says. American Radiator Co. has an experimental car running around the East now.

At the S.A.E. International Automotive Engineering Congress there was considerable discussion about possible methods of doing the job. Obvious difficulties lie in the way of an efficient system. Yet, some experimenters point out, a 10 degree difference in temperature in even a part of the car body can bring a definitely pleasurable sensation to the driver—and such a difference, we are told, can be obtained without too much difficulty. Far more already has been achieved experimentally.

* * *

Dealers Should Fish or Cut Bait

"CAR manufacturers should force dealers to clean up used car stocks every year just as they do with new car stocks before announcement of a new model," said an important sales executive the other day. "Fast turnover," he continued, "is the best answer to the used car problem. If a dealer makes up his mind that he will move his used cars promptly at whatever cost, he is at least brought face to face with his losses quickly. He doesn't live in a dreamland of fictitious book values. He sees his losses so plainly, then, that either he stops having them or goes out of business!"

The used car problem isn't quite so easily answered, of course, but there is food for thought in that blunt statement.

* * *

With His Head Under His Wing

BESIDE the desk of L. C. Hill, Dietrich, Inc., president, we spied the following during a recent visit:

"The Alibi Bird—lives in the land of Promise. It flies backwards and sits on the eggs of Opportunity, but hatches out only Hard Luck!"

Have you seen as good a wall motto lately? If so, let's have it, so we can pass it on.—N.G.S.

Studebaker Offers Six at $645 and Two

by Athel F. Denham,
Field Editor,
Automotive Industries

Introduction of the new Studebaker lines at this time climaxes a period of recovery for Studebaker under its receivers, A. G. Bean, Paul G. Hoffman, and H. S. Vance. When the company went into receivership March 18 it had a bare $700,000 in cash. Today it has more than $3,000,000 and somewhere around another four to five million in quick assets. Its current liabilities, with the exception of the gold notes given to stockholders of the White Motor Company in exchange for White stock, do not exceed $2,000,000.

Furthermore, tooling for the new models, including the making of complete sets of body dies, will have been virtually paid for by Oct. 1, instead of being left to be amortized over a period of time. Under the receivership, overhead and sales expenses have been reduced 50 per cent, corresponding to approximately $160 per car, but the introductory program on its new lines will not be skimped, $430,000 having been set aside for this purpose over a period of five weeks.

Dealers' orders received at the factory up to the time of this writing indicate that October shipments from South Bend will exceed 8500 by a comfortable margin, and may reach 10,000 units. As of Sept. 1, a month before the announcement, dealer records indicated that not more than 2500 of the 1933 models were still in dealers' hands, and it was expected that these would be virtually all gone by announcement time.

FOR 1934 Studebaker Corporation will concentrate in the low-medium and medium-priced field, with list prices ranging from $645 to $1145. Its three new lines of cars, the Dictator Six, Commander Eight (from $845 up) and President Eight beginning at a factory list of $1045, replace the former Studebaker and Rockne lines with cars rather remarkable for value and of striking appearance.

Aside from the lower prices on the new models, their appearance is one of their most important features. Bodies on all three lines are similar in appearance and are characterized by a further development of streamlining.

Rear body panels have a decided rearward slope, which in the case of trunk-equipped models makes possible a deep recessing of the trunk and therefore the provisions of a larger capacity than appearance considerations would allow otherwise. Fender skirts are in evidence, of course, and the rear fenders approach the form of streamline "pants" seen on modern high-speed aircraft.

Forward fenders are extended downward further in front and

Grease packed universal joints in the new Studebaker require no lubrication attention at any time during the life of the car. The original lubricant is efficiently retained and dust and water excluded by a tight joint housing

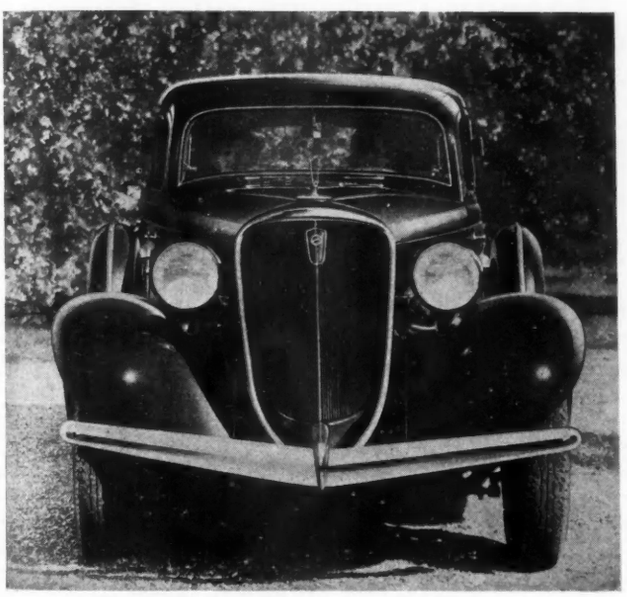
Studebaker 1934 instrument panel. To the left of the panel is the toggle switch for the headlight bulb position control. To the right is a glove compartment

Eights at $845 & $1,045 for '34

Features include new body designs with ventilating system, magnetic headlamp control, more powerful engines with aluminum heads and pistons and box frames on eights —Rockne name dropped

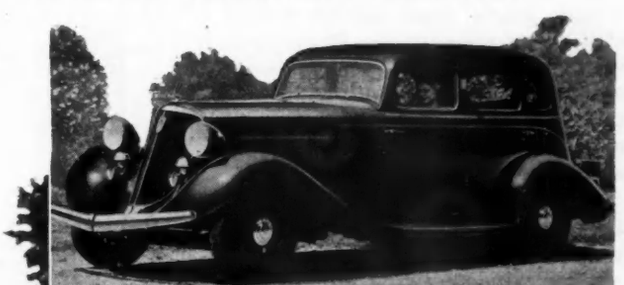
have the same shallow trough on their inner sides that characterized the 1933 Studebaker line. Radiator fronts are more rounded than formerly. Hoods have been extended rearwards to overlap the cowl back to the windshield pillar.

Particularly distinctive in the new line—although not apparent from the illustrations available—is the marked "tumble-home" or transverse curvature of the upper halves of body side panels. From the rear the cars are rather deceptive in that they appear to be much narrower than they are in fact. The rear panel curve also gives the impression that headroom is less than it really is, for in both directions the cars have

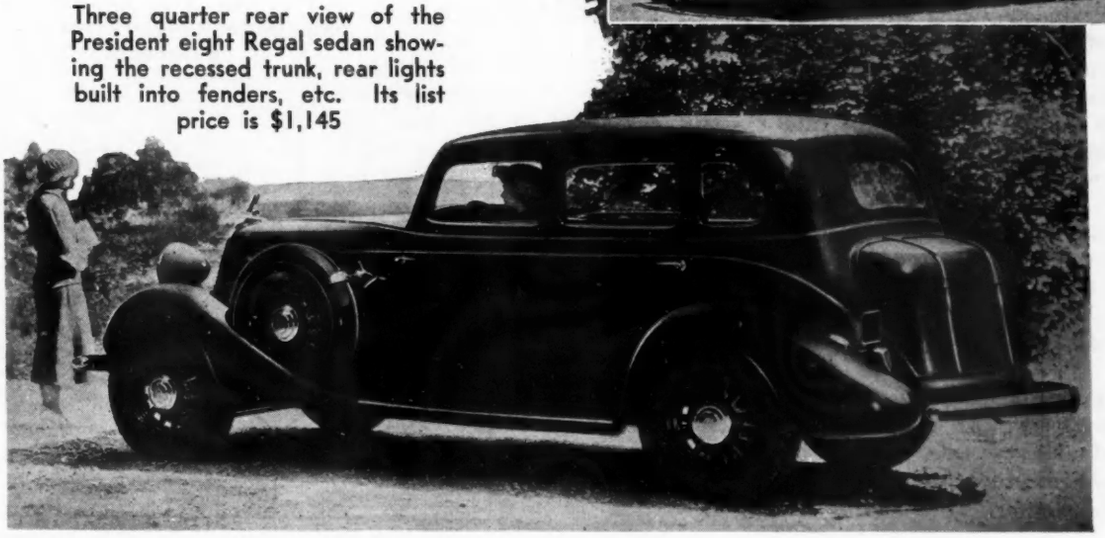


Full front view of one of the new Studebaker models showing the marked "tumble home" of the upper body side panels

List price of this five-passenger sedan in the new Studebaker Dictator six line is $695. Fenders are finished to match body colors.



Three quarter rear view of the President eight Regal sedan showing the recessed trunk, rear lights built into fenders, etc. Its list price is $1,145



Studebaker Prices for 1934

Std. Models	Dictator	Commander	President
5-p. Sedan	$695	$895	$1,095
St. Regis Bro'm	695	895	None
2-p. Coupe	645	845	1,045
2-4-p. Coupe	695	895	1,095
Convert. Roadster	695	895	1,095
Regal Models			
5-p. Sedan	745	945	1,145
St. Regis Bro'm	745	945	None
2-p. Coupe	675	875	1,075
4-p. Coupe	725	925	1,125
Convert. Roadster	725	925	1,125

Base prices on 1933 models were: Rockne, $585; Studebaker Six, $840; Commander, $1,000, and President, $1,325. Safety glass extra.

ample dimensions. Tail lights are built into fenders.

Studebaker body engineers have been given a rather free hand in the interiors also. The domed effect which he has worked out for the ceiling is decidedly pleasing. Then there are such little details as ash trays and hand grips built into robe rail brackets, concealed rear curtains, instrument group of a neat single panel design with a still larger speedometer face, steering wheels finished to match interior trim, universal adjustable interior visors, etc. Instrument panels are recessed for both clock and radio installation.

Two outstanding body features are a ventilating system and a new system of headlighting. Rear quarter window swing outward by means of a simple and handy toggle arrangement. In the front windows the ventilating wings in the forward half have been built into the window glass and frame itself, so that when closed the entire front window assembly can be lowered in the usual manner. Windshields open out if desired, and there is also a large top cowl ventilator. Wipers are mounted at the base of the windshield and have speed control.

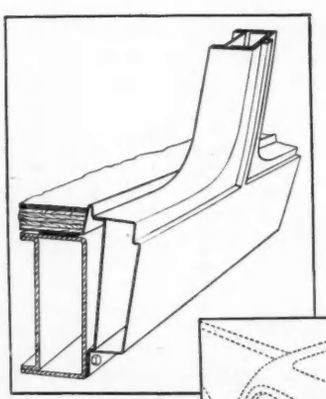
In the headlamps use is made of bulbs with two 32 cp. filaments mounted side by side, instead of one above the other, as is the usual practice. This has the effect of deflecting the beam to the right for "dimming," instead of downward, when the toe-button switch is touched, preventing glare to the oncoming driver without reducing lighting intensity down the road.

In addition to this control there is a toggle button, located on the dash to the left of the instrument panel, which changes the vertical angle of the headlight beam by changing the position of the bulb in the headlamp through the intermediary of a magnetic ratchet mechanism. By tripping this ratchet, the headlight beam can be deflected from one degree above vertical to several degrees below—the latter for city driving. There is also an intermediate position for average driving conditions.

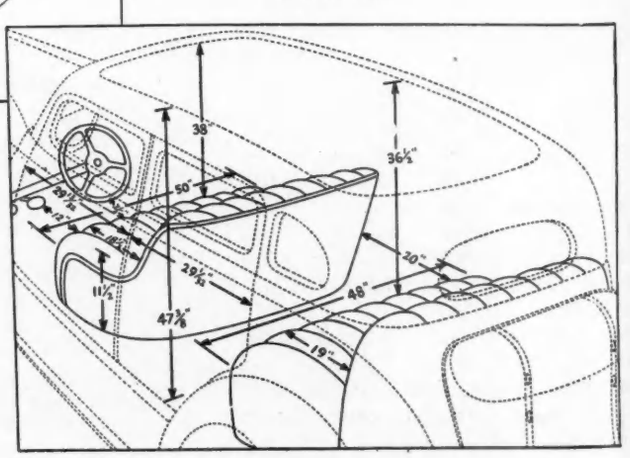
Bodies structurally have undergone considerable redesigning. They now attach to the outside of the frame side channels rather than bolting to the top flange, for greater stiffness. A detail of the body mounting arrangement is shown in one of the accompanying illustrations. Cowls are of double construction, with the forward panel of the dash bulging out at both sides of the engine, to give additional leg room and to lessen the tendency of the panel to drum.

The Dictator Six has a frame that is similar in design to the one successfully used on recent Rockne series. The frames of the two eights are described in detail on page 396.

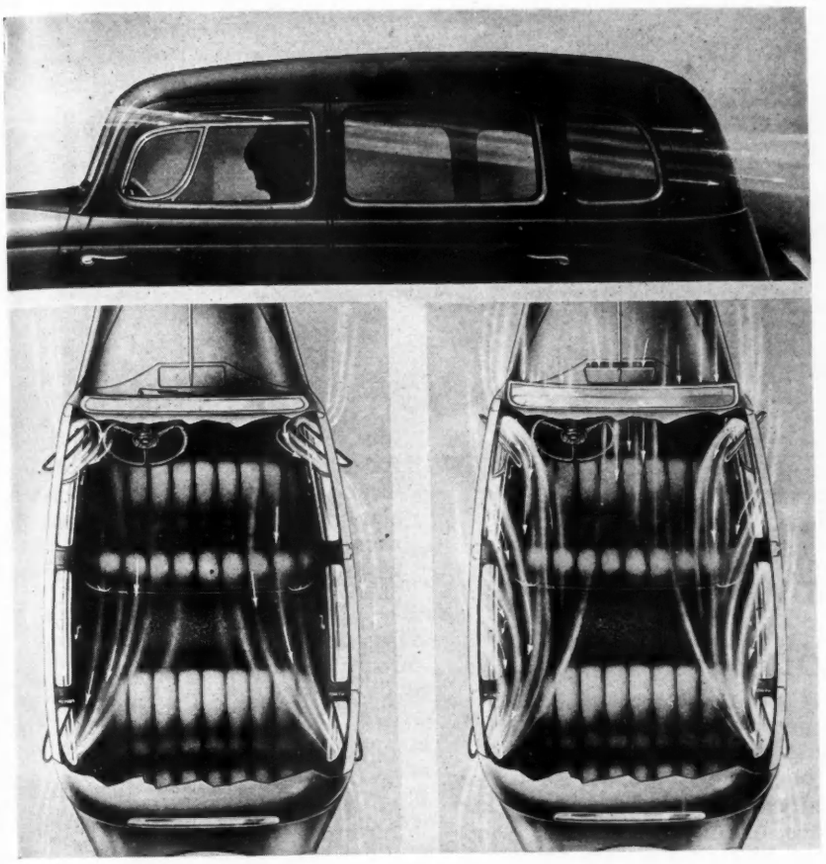
Powerplants in the Dictator Six correspond generally to those used in the Rockne Six last year, but the bore has been increased from 3⅛ to 3¼ in., the stroke remain-



Detail of new body and frame construction in section, showing the box section side-rail and new body mounting



This cutaway view of the Studebaker Dictator sedan shows interior dimensions



Studebaker ventilating system comprising ventilating panels in front windows which can be lowered as a unit if desired, or lowered partially with the ventilators open, and rear-quarter windows of the swinging type, toggle operated

ing the same (4⅛ in.). They develop 88 hp. at 3600 r.p.m. as compared with 85 hp. at 3200 r.p.m. for the 1933 Studebaker Six. The Commander Eight engine has a stroke ¼ in. shorter than that of the 1933 Commander Eight, and the 1934 President Eight engine has the same general specifications as the engine of the shorter-wheelbase President for 1933. Commander engines develop 103 at 4000 r.p.m. against 100 hp. at 3800 r.p.m. last year's.

The increased output of both Dictator and Commander engines is due principally to the adoption on all three engines of aluminum cylinder heads and a consequent increase in compression ratio. All three engines are designed to use "standard" fuels, the standard compression ratio being 6.3 to 1. A departure in the 1934 President Eight engine is the use of high-leaded bronze, steel-backed main bearings of the thin-wall type. All pistons, including those in the Dictator and Commander, are now of aluminum alloy. They carry four rings each, three for compression and one for oil control. Piston displacements are, for the Dictator, 205 cu. in. against 230 cu. in. in the 1933 Six and 189.9 cu. in. in the Rockne, and, for the Commander, 221 cu. in. against 236 cu. in. last year.

Engine accessories include Studebaker's last year's automatic devices: automatic choke, automatic heat contol (except on the six), Startix starter with anti-backfire device, automatic spark advance control through vacuum.

Freewheeling is continued on all models. All universal joints are of the needle-bearing type. Springs are carried in U-type threaded spring shackles, and metal spring covers are standard on all lines.

Brakes on the Commander and President continue to be actuated through Bendix power cylinders, for easier operation, while those on the Six are direct-actuated steeldraulics. Steering gears now have roller bearings in the top of the column, further to reduce friction.

Seats in the new bodies are exceptionally wide, which is due to the wide treads of all chassis—60 in. on the Six and 61¼ in. on the Eights, at the rear axle. Wheelbases are reported to be 112 in. for the Six, 119 in. for the Commander, and 123 in. for the President.

Following is a list of body types available on all three chassis: Four-door, five-passenger sedan, two-passenger coupe, rumble-seat coupe, and rumble-seat convertible roadster. In addition to these, five-passenger St. Regis broughams are available on the Dictator and Commander. Regal sedans and broughams carry spare wheels in fender wells. All wheels are of the steel-spoke type, but wire wheels are optional. A streamlined trunk recessed into the rear panels and spare-tire locks complete the equipment of these models. Safety glass windshields and windshield wings are standard equipment.

German Production Increasing

Production of all types of motor vehicles and motorcycles in Germany during the first six months of the current year increased considerably over the corresponding period of the previous year. The improvement is believed to be due mainly to the removal of the registration tax from new vehicles early last spring. In the following table the production figures for the various classes of vehicle are compared for the two periods:

	1933	1932
Private passenger cars	42,293	22,116
Trucks and delivery wagons	5,559	3,928
Large motorcycles	8,952	6,004
Small motorcycles	14,744	18,105
Three-wheelers	6,537	4,077
Buses	356	90

Plastic Molding at the F

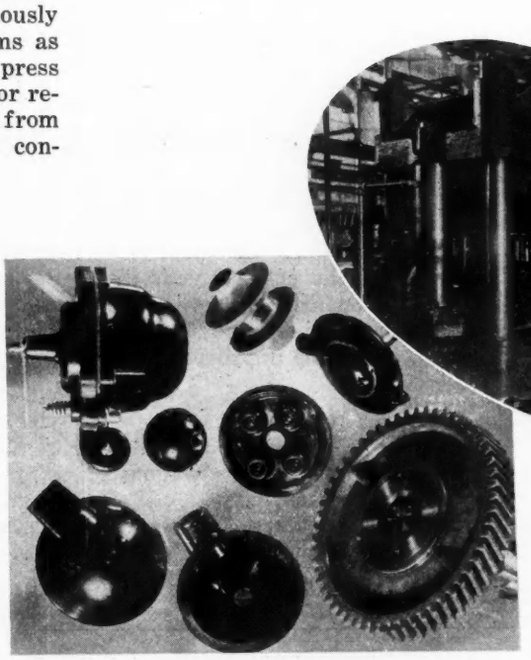
A Ford Eight requires two pounds of phenolic molded parts, chiefly in the ignition system, but horn buttons, hand throttle parts, and gear-shift knobs are also made by this process

THAT excellence in production layout, in equipment design and in extreme cleanliness which is characteristic of all sections of Ford plants is very much in evidence in the department in which the molding of plastic materials is done. Presses are well arranged and molds are well designed for rapid and economical production. Conveyors are provided for delivering the preformed molding compounds and for carrying away molded pieces. Ovens for preheating the preforms are located conveniently near the presses and benches are placed advantageously for rapid handling of preforms as well as of molded parts. Each press is provided with a receptacle for receiving any flash that is taken from the molds and sweepers are constantly at work cleaning up any scraps or dust, which, in shops where less care is exercised, are often allowed to accumulate around the presses.

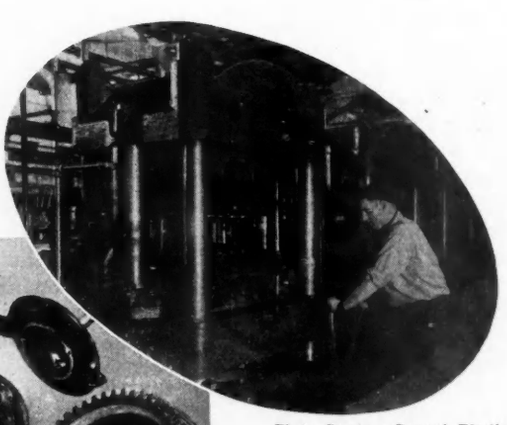
All of these are important points in a carefully considered plan for the rapid production of high-grade moldings in the Ford River Rouge plant.

Ford eights require some two pounds per car of phenolic molded parts. These are chiefly in the ignition system, but some of the same material is used for horn buttons, for hand throttle parts and for the knob on the gear-shifting lever. One of the timing gears is also impregnated with phenolic varnish and thus adds to the total weight of phenol-base products employed.

In the eight-cylinder ignition system, the distributor terminal plates, their caps, a spool-like rotor, the coil base and the coil cover are all molded parts and all require high dielectric strength and moisture-resistant properties. Some parts must also be resistant to arcing and to flash-over which otherwise would prove troublesome. To secure these properties requires not only a good dielectric material, but careful molding practice. Curing must be complete, and yet production rates must be as high as in any shop that turns out good work, for the Ford organization knows its costs and insists upon having its own shops on a basis at least as efficient as are those of outside suppliers equipped for making corresponding parts.



Phenolic parts used on the latest Ford eight. All of these, except the timing gear, are molded from Durez, and the gear is formed from laminated stock impregnated with phenolic varnish

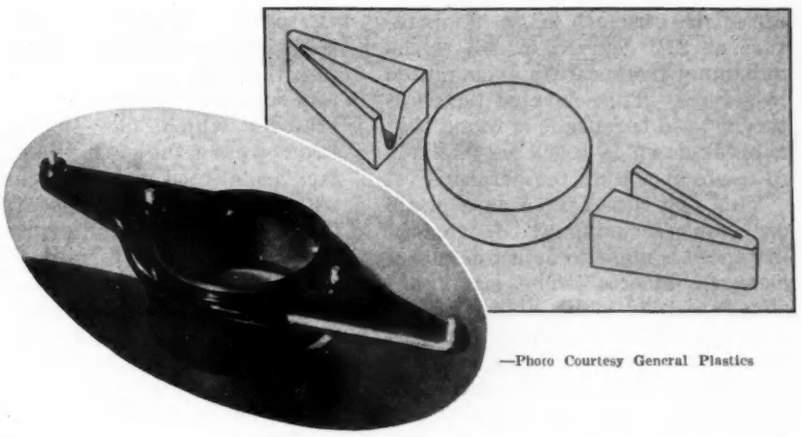


—Photo Courtesy General Plastics

Part of a large battery of molding presses used in the Ford River Rouge plant. Each operator handles two presses, filling the molds in one while curing proceeds in the other press.

Ford Plant

by Herbert Chase, M. E.



—Photo Courtesy General Plastics

Distributor for the Ford four-cylinder engine, with a section cut away to show one of the four inserts. This part is produced in four-cavity molds, using a special grade of Durez developed especially for this part

Sketch showing the two shapes of preforms used in molding the Ford four-cylinder distributor body. The cylindrical preform forms the central portion of the molding and the special shape, inverted to show recess, forms the wing of the distributor. The recess in the wing preform helps to prevent displacement of the wire inserts when the press is closed, as explained in the text

Molds of the flash type were formerly used, largely because close weighing of the charge was not required. This involved some overflow, but waste was minimized by using a small proportion of reground flash in such unimportant parts as shifter-lever balls, where adequate strength was secured. Now, however, positive molds are being substituted for the flash type and practically all virgin compound is employed. With proper control of preforms, the weighing of individual charges of powder is avoided and a high production rate maintained.

Most of the molds used have from nine to thirty-six cavities and preforms are made of such size and shape as to facilitate rapid charging and to avoid displacement of inserts. All molds are chromium-plated and polished, as this has been found to give not only a high lustre to molded pieces, but to minimize mold wear.

In the design of the mold, care is exercised to see that it is well-channeled for rapid heating, and each press is fitted with a steam trap to make sure that water is excluded and a free flow of steam insured. A steam pressure of 150 lb. per sq. in. gage is maintained. Presses are fitted with rams of larger diameter than are common, so that a lower hydraulic pressure (1500 lb. per sq. in. as against the usual 2000 to 3000 lb.) can be employed and still provide a molding pressure of 2500 lb. per. sq. in. Dies, of course, have as many cavities as the presses can handle with due regard to an economical filling time.

Preforms are delivered to the molders in carriers that hang from an overhead conveyor chain. The preforms are not placed directly in the molds but are loaded in basket-drawers of which there are six to ten that fit into each of the electrically-heated ovens located on benches across the aisle from the presses. Preforms remain in the ovens from 10 to 20 minutes, during which time they are heated to a temperature of about 160 deg. F.

This preheating produces several advantages. In the first place, it drives out moisture and improves the dielectric properties of the molded pieces. Secondly, it results in better and freer flow, with less chance of displacing inserts, and greater certainty of completely filling out each cavity. In the third place, it enables the press to be closed sooner and also shortens the curing time, as less heat has to be transferred in the mold. This, of course, results in a higher rate of production and reduces the chance of under-curing. Finally, preheating results in a better finish.

Naturally, the length of cure varies somewhat with the piece being molded and with the section thickness. It averages in the neighborhood of 2½ minutes after the press is closed. Loading time varies also, with the type of piece, number of inserts and number of cavities to be filled. Molders are required, of course, to blow out the mold cavities, using an air hose, place such inserts as are specified, charge each cavity with the heated preforms and then close the press. While curing proceeds, the molder works on the second press of the two he is required to handle. Each molder times the cure by reference to a common clock equipped with a two-foot second hand. He then opens the press and operates the ejector, freeing the pieces so that they can be lifted out.

Rough flash is broken off by the molder and dropped into a chute discharging into a receptacle where it accumulates and is removed occasionally by an attendant. Moldings are placed on a belt conveyor running back of the molders' bench or in overhead conveyors and are carried to a point where other operators buff off any remaining flash and fins.

At this point some machining of inserts and of certain of the parts themselves is carried out (the latter to avoid the use of more complicated molds) and very careful inspections are made. Every part is checked for possible warpage or distortion, and concentricity as well

as other tolerances are checked within the required limits by the use of plus and minus limit gages. Some pieces are also tested for dielectric strength at a temperature of 212 deg. F., which is the maximum temperature encountered in service. This elevated temperature is used because it is found that a break-down is much more likely to occur at a high temperature.

This test also serves as a check on complete curing and in certain instances is made to detect displacement of inserts. The latter applies especially to distributor bodies used on the four-cylinder engines. These have wires running through each of the wings. Since the wires are slender, they are sometimes displaced and come so close to the surface as to result in flash-overs.

To minimize such displacement, preforms are made up in the shape shown in the accompanying sketch, those which form the wings having recesses which straddle the wires that lead from the distributor segments in the cylindrical center portion and are integral with the terminals that are connected in service to the sparkplugs. As the lower face of the preform fluxes, the plastic flows under the wire and supports it so that closing of the mold does not force it to the outer surface of the molded piece. In this mold, a loose piece or plug forms the central cylindrical opening in the molded piece, and helps to position the segment inserts. The plug also supports the central cylindrical preform which fills the annular space around the plug. When moldings are ejected, the plugs come out with them and are tapped free, at the same time breaking away the thin flash which is formed over the top face of the plug.

As the four-cylinder type of distributor is quite large, it is made in four-cavity molds. About 600 moldings of this type can be produced per eight-hour day by one molder operating two presses. These distributors, because of their length and shape and the inserts used, require an unusual material to avoid the possibility of shrinkage cracks, especially around the inserts. The material used is a special grade of black phenolic compound developed especially for this piece in conjunction with General Plastics. Besides being a little more elastic than the standard material, it is slightly tougher and has a slightly higher bulk factor (2.6 as against 2.5 to 1). It preforms readily, and cures under the usual pressure and in the normal time. it is supplied in medium plasticity.

The spool-shaped rotor used in the timer for the eight-cylinder engines and already referred to above, is molded from another special material in a distinguishing red color. It has a dielectric strength of about 500 volts per mil, and in addition will resist carbonizing, when arcing or flash-over occurs, about three times as well as standard material. On dielectric fatigue tests this material has been found to stand up several times as long as standard material. It is slightly heavier than the latter, but preforms and molds under normal conditions and has proved quite satisfactory for this rather difficult application. Its bulk factor is 2.4 to 1.

Other Ford parts made from phenolic materials are molded from standard or general-purpose black compound. It is very fast in curing and has a high dielectric strength, 475 volts per mil. It is supplied in soft, medium and hard grades, and of course best results are secured when the right plasticity grade is selected.

Germany to Build Special Motor Roads

THE German Federal Railroad Corporation has been authorized to organize a subsidiary, to be known as Federal Automobile Roads, which will have the exclusive right to build and operate special automobile roads in Germany. It will be subject to supervision by the Federal Government.

The new project is intended to serve the double purpose of relieving unemployment and of developing automobile traffic, in respect to which Germany still lags behind. It is considered impossible to properly adapt the present road system to the requirements of automobile traffic. There is need for relieving these highways and to supplement them by a system of main thoroughfares to be developed gradually. These new thoroughfares are to carry automobile traffic over long distances, while the old roads are to serve as tributaries. Control of the Federal Automobile Roads is placed in the hands of the German Federal Railroad Corporation because it is believed that the conflict between road and rail can best be solved by placing all commercial long-distance transportation under unified control.

The program involves the construction of six principal highways, two of which will cross the country from north to south, three from east to west and one in the north-west and south-east directions, according to U. S. Department of Commerce bulletins. In all there will be 4800 kilometers of roads built at a total cost of between one and one and a half billion marks.

It was recently reported from Germany that the German Railways were going to enter the motor truck transportation field with the initial purchase of 2000 motor trucks. The railways have allotted a minimum of 10 million marks for the purchase of truck equipment and establishment of trucking service, including motor parks, terminals and other facilities.

The railways are planning an entire freight service with the new trucks, including collection and delivery of shipments even in carload lots, at plants constituting the point of origin and ultimate point of delivery. One proposal was to rent or purchase used trucks from private transportation companies.

The encouragement of motor transportation in Germany parallels that in Italy where a special new route for truck traffic from Milan to Genoa is being built by the Italian Government.

The Italian State Railways have in many sections instituted a unified service with private motor lines for movement of commodities. It is estimated that the new service will affect about 2000 localities not served by rail lines.

Putting Forced Draft Under Social-Economic Trends

by Julian Chase

Directing Editor, Automotive Industries

"IN a Common Determination"—so reads the slogan borne by the NRA three-cent postage stamps on which are depicted a farmer, a business man, a laborer and a housewife marching abreast, from somewhere to somewhere else, with clenched fists, set jaws and determined stride. Is it the business man in the drawing who is out of step, or are all the others out of step, as the old lady said when her son and his company paraded by?

Of course, the explanation for the lack of perfect marching rhythm in the drawing is that the artist, without thought that any special significance would be attached to his effort, took the liberties which are his right in an effort to attain what he thought a more pleasing effect. But the drawing and the slogan taken together, nevertheless, tell a story by unintentional implication.

Think as you will about the quality of the drawing, the slogan is pretty good as slogans go. If we could live up to it and act up to it, there is almost nothing that could not be accomplished. But we are not living and acting up to it. It is humanly impossible to do so completely. Primitive and natural human traits, impulses and reactions prevent it.

We have not yet reached the day when we shall willingly, gladly and with spontaneity cast off our selfishness and greed like worn out suits of variegated clothing and don the more effectively protecting regimentals of altruism. We are trying to march forward to that day—but some of us, like the business man on the postage stamp, are out of step. We are not yet ready, as some will say, even to start a march to the millennium in regular, measured and uniform strides. Whatever progress we may be making is like that of a motley crew on a hunger march to Washington. We are struggling and straggling along as best we can with our ranks broken by conflicts which are petty in the eyes of the many but important in the eyes of the few. There is disorder and disorganization among our several naturally formed groups.

One hope for the success of N.R.A. presupposes that we have gone far enough along the Highway of Common Welfare so that a little extra, compulsory effort, as nearly united as it may be made, will bring us, if not quite to our destination, then at least within hailing distance of it. That is the hope of the optimist. The moderate pessimist feels that we are not yet even on the road and his just as ardent hope is that the effort of N.R.A. may bring us through a low-lying wilderness to a higher point from which we can at least see and agree upon what and where that broad and easy highway really is.

N.R.A. is an attempt to put a forced draft under fundamental trends. One thing which we shall learn from the experiment is whether or not in this case it can be done without, temporarily at least, retarding these trends or, perhaps, for a time either turning them about or throwing them into reverse.

Before prohibition there was a distinct trend toward temperance. The 18th Amendment was designed and intended to put a forced draft under it, but the trend immediately lost all its steam like a burned out boiler. It is most fervently hoped that similar results with a definite set-back for the trend toward economically and socially better industrial relationships will not follow the application of the National Industrial Recovery Act.

Following the adoption of the 18th Amendment there was a marked increase in intolerance and bitterness, an almost spontaneous resentfulness and revolt against the attempt to accelerate a natural process of social evolution by the application of legal force. We had in that result additional evidence to support the belief that not much if anything can be done to speed changes in human conduct and relationships.

During the past weeks of the code making period we have heard it said at different times in Washington and elsewhere, that much more rapid progress could be made in reaching agreements as to what is fairest and best for both industry and labor if selfish interests were buried and forgotten. Something along that line may have been accomplished here and there in isolated cases but, on the whole, we have seen greed grow and selfish interest, which is a natural outgrowth of the primitive instinct of self preservation, become more arrogant and determined.

For the time being we appear to have more petty things to quarrel over, more reasons for both capital and labor to go on strike. It may seem more difficult to march forward together with none of us out of step. But in pure self-interest, as things now stand, we must strive even harder for a spreading of intelligent and altruistic understanding in order that we may really move "In a Common Determination."

The Forum

Likes His New Car, BUT—

Editor AUTOMOTIVE INDUSTRIES:

About six weeks ago I "traded in" my 1931 Sedan on a 1933 Sedan of the same make. The new car is much better than the old one and the manufacturer is to be congratulated. However, he is also to be indicted for letting the new car inherit many of the old car's shortcomings.

The left front brake drum scored on both cars at 1000 miles; although the new car has cast iron drum surfaces, the old one steel.

It was necessary to equip both cars with fender flaps to prevent gravel from pitting the finish on the rear panel. It is more difficult to install flaps on the new car.

The old car used studs and nuts to attach the wheels to the hub; the new car uses cap screws and the wheels are much harder to change.

Both cars have plated bumpers that scratch and rust. Why can't we have stainless steel bumpers? One car uses them.

Both cars have about the same top speed.

The steering gear ratio is larger on the new car, so large that steering is too slow for traffic.

Window lifts on both cars are hard to lubricate.

The windshield wiper motor is well hidden inside the top header. One needs to be a Houdini to install a new rubber hose connection. I remember about five years ago I could do this same job in thirty seconds.

One still has to strike a match at night to find the ignition key hole.

Why can't we have some place to store tools? It is too bad we have to have them, but tires do go flat sometimes. This means unloading your grandmother and father-in-law, remove the rear seat cushion, getting on your knees and fishing out the jack, etc. You then unwrap these implements from a quilt your wife recognizes as the one she could not find some several weeks ago. (The quilt has helped some to prevent rattles.) I remember about fifteen years ago I had a metal box on the running board that held tools. Why can't we have one now?

Valves! Just how can the valve clearance be checked on the front three cylinders of the new car? The hood ledge comes up too far.

The Instruction Book says adjust hot. Now how can one remove the manifolds before the engine cools?

My 1931 car listed for $70 more than the 1933 job I bought. Yet the delivered price of the new car was $3 more! The difference between the delivered and list prices is $73 more now than three years ago. Why does it cost $73.00 more to deliver a car now? The manufacturer advertises the low list price, "a drop of $70 in two years," but my car costs $3.00 more ! ! ! ! My friend the dealer tells me that this $193 covers freight, bumpers, extra tire, tire cover, etc., advertising, Federal Tax, oil and gas, unloading and other charges. Next year probably the delivery charge will be larger and include engine and fenders.

Now the Service Department: The new car in question came from the assembly line with a low compression head, the dealer changed this to a high compression one. He did not know the correct ignition timing or correct spark plug number for either. I had to write the Service Department for this information, which took ten days for an answer.

Why can't we have a published list price of special equipment?

I wish every head of every Service Department would take a trip into the South and have the misfortune of losing a radiator cap, fuel tank cap and hub cap. It would be interesting to see him drive into Detroit with two cork stoppers and no hub cap. I never had trouble buying parts for a Model T Ford.

There is one thing we owners would like, but have slight hope of having. A parts catalog and the privilege of being able to order parts direct from Detroit. We could probably get them this way in a week, which is much better than going to a dealer, talking to a dumb clerk, having him order the parts, then pay for a telegram, parts and express, waste ten days and then get some parts that do not fit.

C. L. DAVIDSON,
Testing Engineer

Thinks Gas-Pneumatic Power Unit Offers Advantages of Steam

Editor AUTOMOTIVE INDUSTRIES:

Mr. Delling, in your issue of July 22, presents clearly the advantages of the steam car, but he somehow overlooks entirely its disadvantages. As everyone knows, the efficiency of the steam engine is much less than that of the internal combustion engine; there is trouble and wasted time in getting up steam or else expense in keeping the steam pressure up; even with a condenser; the water must be renewed frequently, and water which leaves no scale is not always easy to get; and the steam car is

more complicated and more expensive to build.

Might it not, however, be possible to combine the undeniable advantages of the steam car with the equally undeniable advantages of the gasoline car? Some three or four years ago I read of a German locomotive which had a Diesel engine that operated an air compressor. The thermal efficiency of the latter was very good, due to the injection of water on the compression stroke. The compressed air was next heated by the exhaust gases of the Diesel engine, and then expanded in conventional cylinders connected with the locomotive's drive wheels. The overall efficiency was exceptionally high.

Something similar might be done with the motorcar. A four-cylinder gasoline engine could be coupled with a two-cylinder air compressor on the same crankshaft in such a way as to obtain perfect balance of the reciprocating masses. To get good thermal efficiency in the air compressor without the mechanical complication of a water injector, it might be sufficient to pass the air through a water carbureter. After leaving the compressor the air would be heated by the exhaust gases of the gasoline engine and expanded in cylinders connected with a separate shaft geared directly to the differential. The gasoline engine, the air compressor, the air engine, and the differential housing might well be a single casting, with the crankshaft of the first two on one side, and the crankshaft of the third on the opposite side. Such a casting would be simple to make and probably no more expensive than the cylinder block of a V8.

Various refinements readily suggest themselves, such as double or triple expansion of the compressed air. Or we might expand some of the unheated compressed air in the the lower half of the cylinders of the gasoline engine, a la Still engine. Without discussing these, I should like to point out that such a motorcar would have the steam car's ease of starting and reversing, maximum torque when maximum torque is needed, and excellent acceleration. But it should also have an efficiency greater even than that of the gasoline car, partly because fewer cylinders would be necessary to obtain equally good acceleration, partly because its gasoline engine would always be operating close to its maximum efficiency, and partly because the temperature difference in the air compressor would be kept low by the injecting of water, the temperature difference in the air engine would be kept high by the heating of the compressed air from the exhaust gases of the gasoline engine. Like the steam car, it would have no clutch and no transmission; like the gasoline car, it would have no boiler and no large water tank. It would have none of the steam car's slowness in getting up pressure, none of the gasoline car's need of shifting gears.

LOCKWOOD MYRICK, JR.

Radio Direction Finders for Automobile Drivers?

Editor AUTOMOTIVE INDUSTRIES:

Recently the question of consumer research was brought up in "Just Among Ourselves."

I have been associated with a large fleet operator for years and have seen many changes in the design of passenger cars and unless biased I am of the firm belief that it wont be long until a car will have to be driven by instrument instead of the God-given vision that is being so completely taken away from the driver of the present day car. Did you ever stop to think of the sins that are committed in the name of low center of gravity? Let me enumerate a few of the glaring ones.

1. Lack of vision. Evidently the cost of a full sized piece of glass is more to be considered than vision and safety.
2. Getting into and out of a passenger car has become our daily contortion.
3. The belt line might be a nice dividing place for color but what has it done toward making it almost a lost art in giving a hand signal.
4. Where do designers get their models for making seats? Do they ride in their own creations?
5. Does the sales department have to build up the buyer's appetite with optical illusions? I believe there is an old saying 'a thing of beauty is a joy forever' but apparently the definition has been reversed in motor car design.
6. Has the industry lost all of its individuality? Does every builder have to almost exactly copy his neighbor's product? There was a time that you could identify a car by its spring shackles. Try and do it now.
7. With wind tunnel tests at their disposal, how can makers have the audacity to tell the public their cars are streamlined. More apt to be true if the car were going backwards.

My idea of a passenger car is that it should:

1. Be comfortable to get into, ride in, and get out of.
2. Have sufficiently large windows to allow the driver to give a hand signal without effort.
3. Have the pillar at the back of the front seat set back far enough to make it possible to drape the arm out the window in comfort.
4. Have view of the road not more than ten feet from the front of the car.
5. Do away with the plating that has become a source of trouble instead of beauty.
6. Be as near automatic as possible commensurate with safety.
7. Have a new kind of power plant. Steam or some kind of vapor. This would do away with many of the delicate adjustments now necessary to the operation of an internal combustion engine.
8. Be streamlined to the nth degree so that fuel could be utilized to the greatest possible efficiency.

L. M. POWERS.

Box Section Side Rails and Save Weight in New

by Joseph Geschelin
Engineering Editor, Automotive Industries

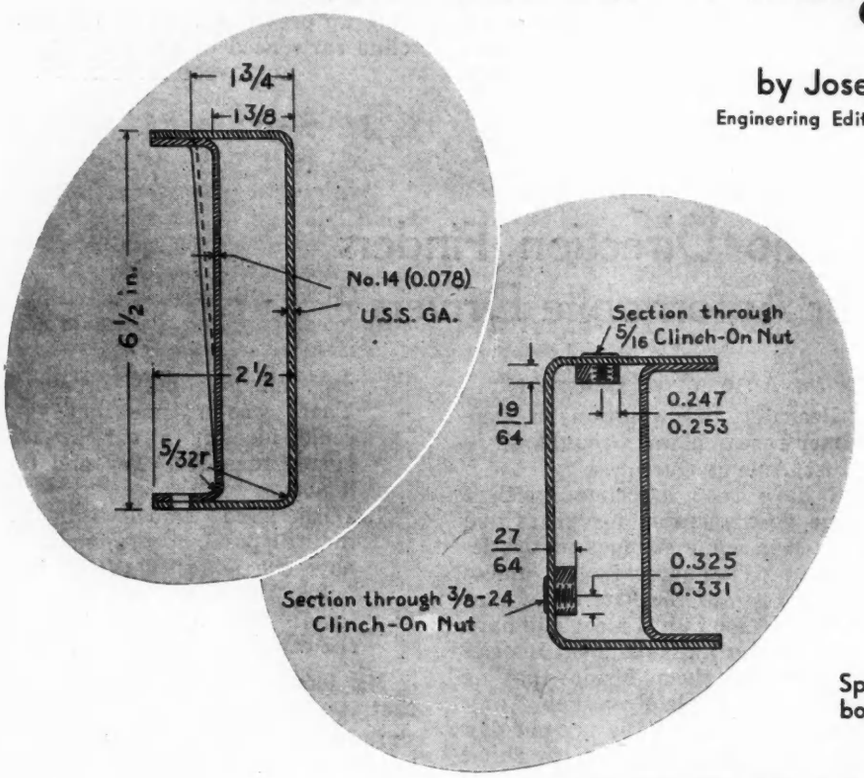


Fig. 1—
Typical section through box-frame side rail

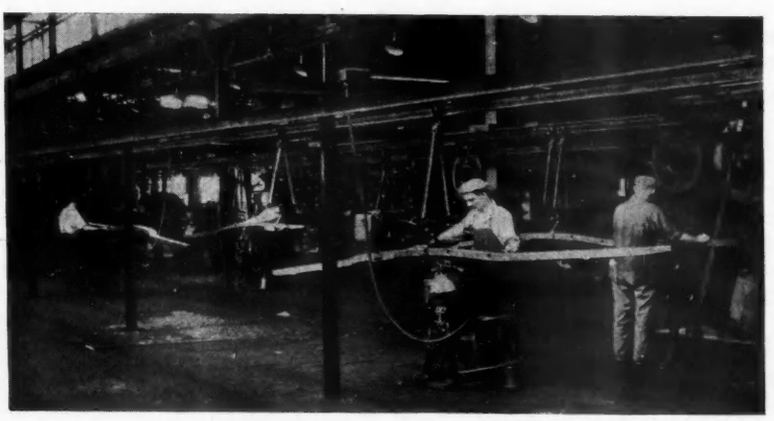


Fig. 2—
Spot welding side rail channels to produce box section. View in plant of The Midland Steel Products Co.

HAVING established maximum frame rigidity as a requisite to good car performance with the variety of body type demanded today, Studebaker's 1934 line has been mounted on a box-type frame adopted by D. G. Roos, chief engineer of the company, after a first hand survey of current European practice.

In torsional stiffness, the new frame has 26 times the rigidity of the former design and about 3½ times the rigidity of a well-designed X-frame.

Yet the box frame weighs 17 pounds less than the former design despite the fact that it is three inches longer.

As shown in the typical section in Fig. 1, the side rails of the new frame are composed of two telescoping channels spot-welded along the full length of the upper and lower flanges. An intimate close-up of the welding operation taken in the plant of the Midland Steel Products Co. is given in Fig. 2.

Frame A, Fig. 5, shows the construction in plan view, featuring X-frame bracing and the large diameter tubular front cross member. Another view is found in Fig. 3 which tells better than any word picture could, how accuracy is achieved in the final assembly through the use of the metal master framing fixture. It is interesting to observe the locating pads at critical points along the side rails as well as the toggle-operated pads which hold the structure securely in place during the riveting operation.

It is a matter of note that the maximum fiber stress has been kept the same in the new frame as in the previous design. In fact a number of torsional and straight beam tests at the Midland laboratory show that the box section not only increases the torsional rigidity of the

Triple Stiffness Studebaker Frame

rail but that also for a given section modulus. It gives a marked increase in strength over the conventional open channel section.

Through the courtesy of The Midland Steel Products Co., we are permitted in this article to discuss the results of torsion and shear tests of three types of frames to be described subsequently, the tests being carried out on the Midland chassis machine with which most readers of *Automotive Industries* are familiar.

For torsion tests, the frame is mounted in the machine as shown in connection with frame B, Fig. 5, with three ends fixed, one end free. One side rail is rigidly fixed to the large bracket at each corner; the other rail has one end free while the other end although fixed as to lateral movement is permitted to rotate freely about a fixed pivot. This set-up assures pure torsion conditions by eliminating the effect of bending in the loaded rail were it not free to rotate.

The method of loading is shown in Fig. 4 taken with the Rockne frame in place.

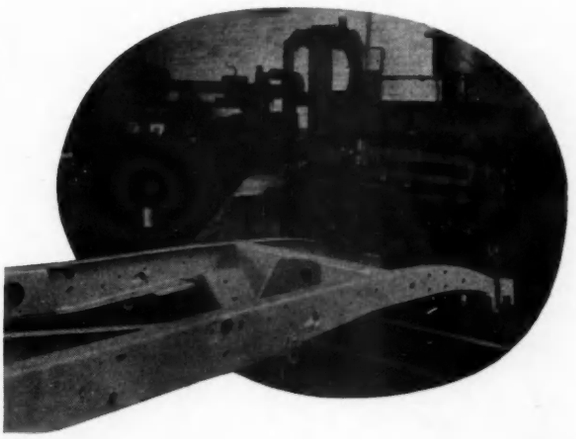


Fig. 4— View of Rockne X-frame in Midland chassis testing machine demonstrating method of installation and loading for the torsion test

The torsion tests depicted graphically in Fig. 5 show strikingly the high order of rigidity made possible by the box construction. It is an interesting commentary that a former design of open channel, cross rail type lacked rigidity to such an extent that it sagged 3 in. out of line at the free end as indicated by the reading of −3.0. It required 40 lb. load to restore the free end to its horizontal position and it deflected 5 in. upon application of only 65 lb. additional load.

The conventional type X-frame was given a preliminary lift of 80 lb. before starting the test in order to take up any looseness that might be present in the joints. When deflected 1 in. at a load of 100 lb. it assumed a permanent set of 0.030 in.

The box frame could be deflected only ½ in. but without evidence of permanent set after the load was removed.

In analyzing the test data we get the following results for the values of torsional rigidity in terms of pound load per inch of deflection:

1. Frame A, $\frac{175}{0.5} = 350$ lb./in.
2. Frame B, $\frac{100}{1} = 100$ lb./in.
3. Frame C, $\frac{65}{5} = 13$ lb./in.

But since the frames are of different length, as is evident from Table 1, the comparison to be accurate should be made in terms of pounds per inch of deflection, per unit of length. On this basis we get the following values:

1. Frame A, $\frac{350}{163} = 2.14$ lb./in. per in. length
2. Frame B, $\frac{100}{157} = 0.636$ lb./in. per in length
3. Frame C, $\frac{13}{160} = 0.081$ lb./in. per in. length

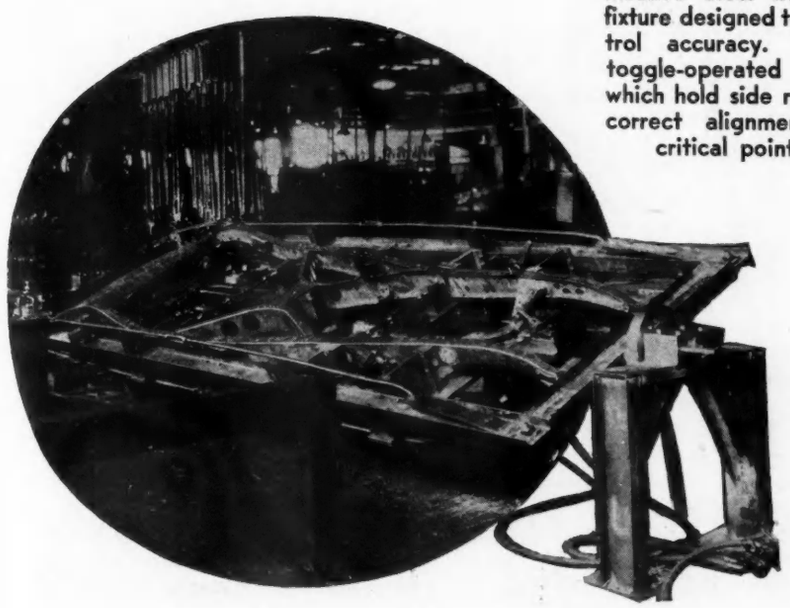


Fig. 3— Frame is assembled in massive steel framing fixture designed to control accuracy. Note toggle-operated pads which hold side rails in correct alignment at critical points

Now the foregoing represent the real values of the slope of each load-deflecton curve and a comparison of slopes will naturally give the relative rigidity of each design. Making this comparison, we get the following values:

$$\frac{A}{C} = \frac{2.14}{0.081} = 26.4$$

$$\frac{A}{B} = \frac{2.14}{0.636} = 3.36$$

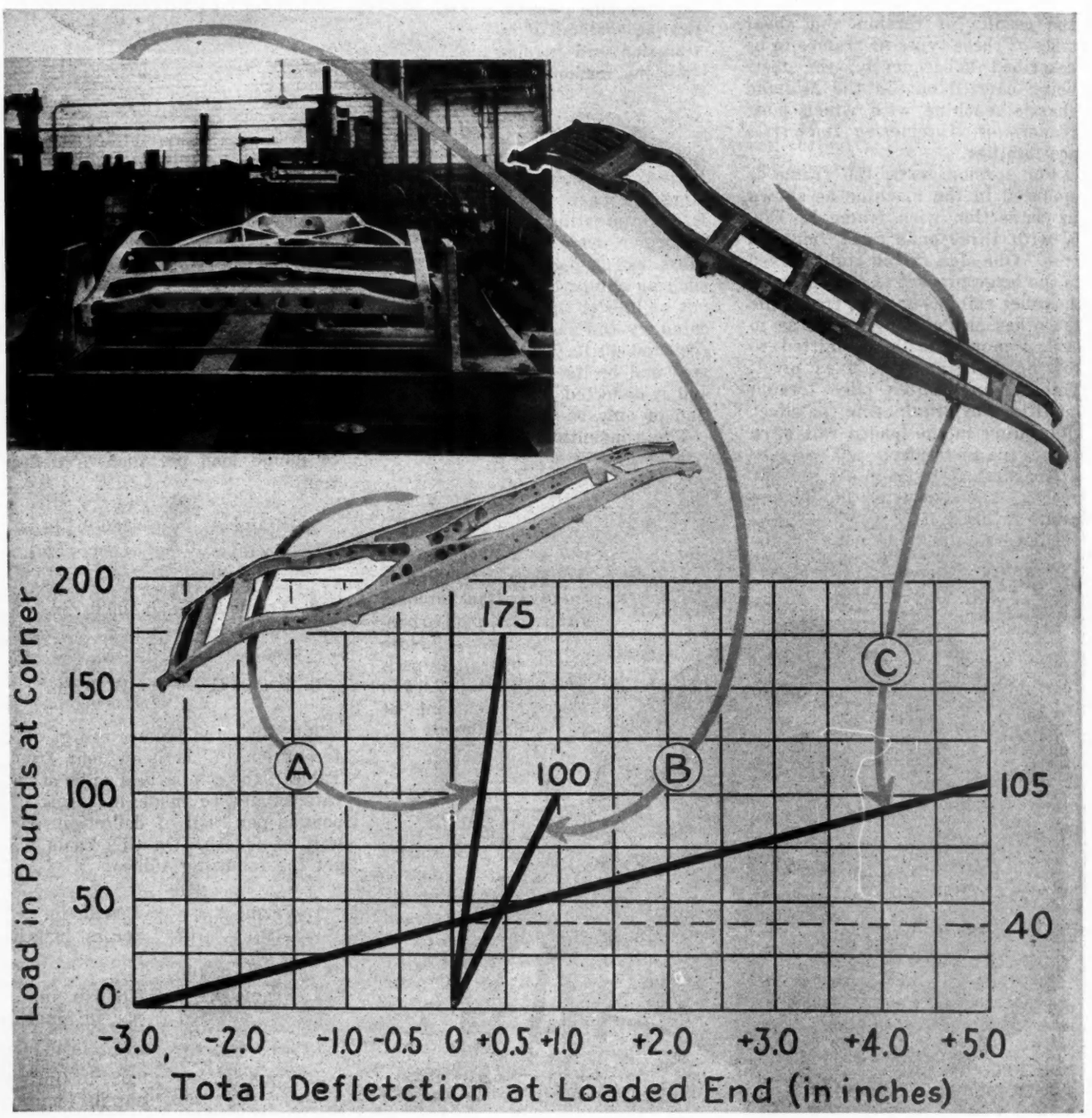
$$\frac{B}{C} = \frac{0.636}{0.081} = 7.85$$

From this it follows that the box frame has about 27 times the rigidity of the previous design and about 3½ times the rigidity of an X-frame of good conventional design. By the same token, the X-frame has almost eight times the rigidity of the frame with parallel cross-members.

Fig. 5

Load-deflection curves for Frames A, B, C. Frame A, the new box-section design; B, the 1934 Rockne X-frame shown mounted in the Midland chassis machine giving the detail of the pivot at the rear end of loaded (right hand) rail; C, a former design

Fig. 6 depicts the results of a series of shear tests in which the bracing of the frame comes into play. Here the frame is installed in the chassis machine with one rail rigidly fixed while the other is free to move longitudinally. This rail is loaded by a horizontal ram and forced to deflect. Making the same analysis as in the case of the torsion test and making the same correction for differences in length, we get the following values for lb./in. deflection per inch of length:



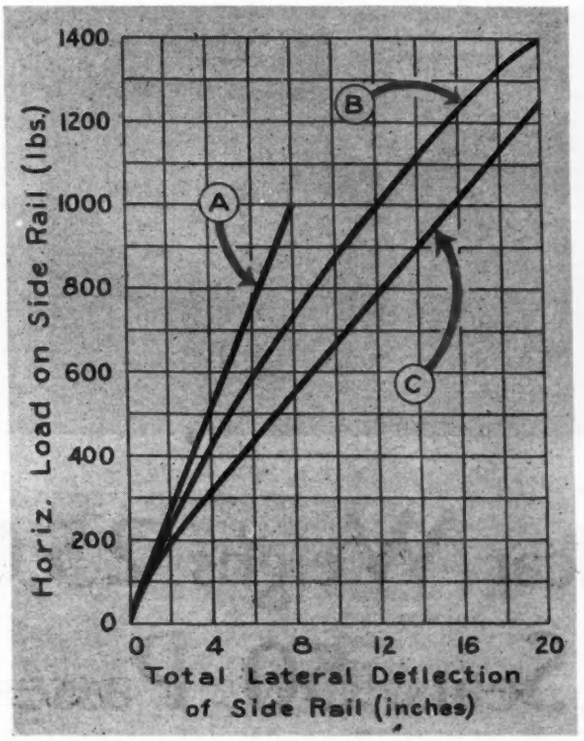


Fig. 6—Load - deflection curves resulting from shear tests on the same frames. In this series of tests, the left side rail is fixed while the right is free. The free rail is deflected horizontally by loading with a ram at the forward end of the machine

1. Frame A, $\frac{1000}{0.08 \times 163} = 76.68$

2. Frame B, $\frac{1400}{0.20 \times 157} = 43.31$

3. Frame C, $\frac{1250}{0.20 \times 160} = 39.06$

For the purpose of qualitative comparison, neglecting the fact that the slope is not uniform for frames B and C, since these plots are not straight lines, we get the following comparisons of relative resistance to lateral distortion:

$$\frac{A}{C}, \frac{76.68}{39.06} = 1.96$$

$$\frac{A}{B}, \frac{76.68}{43.31} = 1.77$$

$$\frac{B}{C}, \frac{43.31}{39.06} = 1.11$$

Here the comparison is not so startling as in the torsion tests although it is notable that the box frame has 96 per cent more resistance to lateral distortion than the former frame; 77 per cent more than the X-frame. However, the X-frame is only 11 per cent better than frame C.

The superior rigidity of the box frame as demonstrated by these tests is expected to provide the quality of stiffness that has been lacking heretofore on sport models, touring car bodies and the like, which do not have the structural rigidity and strength of a well-designed sedan body.

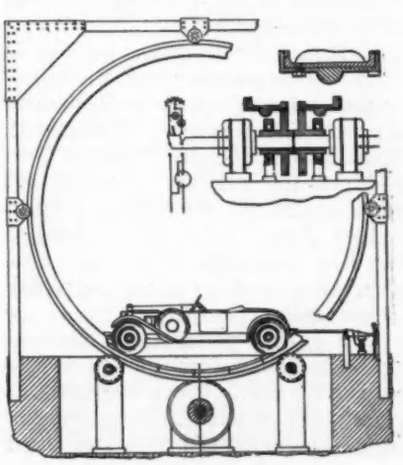
TABLE 1

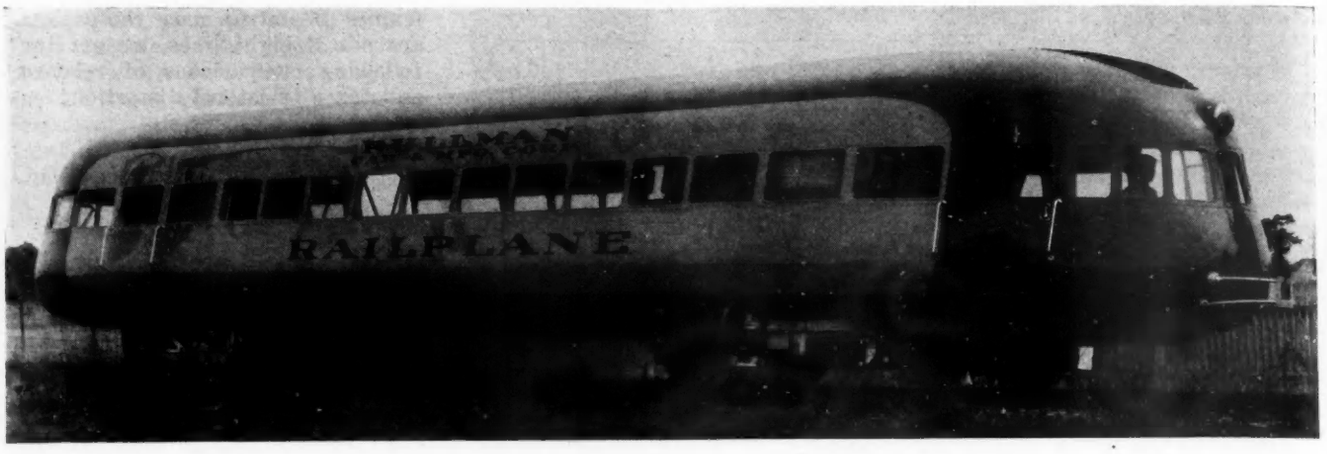
Frame	Weight Lb.	Length (In.) Hanger to Hanger
A	218	163
B	197	157
C	235	160

Car Rolls in Huge Hoops in New Chassis Dynamometer

A U. S. patent on a new type of chassis dynamometer has been issued to F. V. Larkin, director of the Department of Mechanical Engineering at Lehigh University, Bethlehem, Pa. Instead of the rear wheels being placed on pulleys to which an absorption dynamometer is connected, the entire vehicle is placed inside two large rings forming circular tracks, the rings being supported by small guide wheels carried on a suitable structure. The two tracks are connected through gearing to an absorption dynamometer. The chassis is held in a substantially level position by means of an anchoring bar which incorporates a weighing scale that indicates the traction effort exerted by the driving wheels on the tracks.

Among the advantages claimed for this type over the more conventional form of chassis dynamometer are that such phenomena as shimmy may be produced at will and may be studied while the car is stationary; that the tracks may have a much greater radius of curvature than in the conventional dynamometer, producing more nearly the effect of an actual roadway, and that in case the anchoring bar or its connections should fail, the vehicle would be confined to the track and immediately upon disconnection begin to climb a steep grade, so that the vehicle would not only be confined to a closed path but would have its velocity reduced rapidly. It may be pointed out that the tracks are provided with flanges which keep the wheels in place upon them.





Stout Railcar Weighs 25,000 Lbs. and Seats 50 Passengers

Has 90 m.p.h. top speed—Two 165 hp. engines drive axles of forward truck independently through automatic transmissions

FIRST experimental test runs on the lightweight railcar developed by the Stout Engineering Laboratories here, revealed that the work has been carried on for the Pullman Car and Mfg. Corp., manufacturing subsidiary of Pullman, Inc.

The novel railcar throughout bears a much closer relationship to automotive and aircraft design practice than it does to railroad construction. Weighing about 25,000 lbs. complete, it is 60 ft. long and has a seating capacity of 50 passengers. Top speed is variously estimated as in the neighborhood of 90 miles per hour.

External shape of the railcar is largely a development of the wind-tunnel research and aerodynamic aircraft experience of William B. Stout and Ralph H. Upson. Both ends of the car are rounded off, steps are of the retractable type to reduce drag. Sidewise streamlining has also been taken into consideration to allow for cross winds in operation.

The entire powerplant mechanism is located below the car on the forward truck. There are two engines, each coupled to an automatic transmission of the type described recently in these columns.* One engine and transmission drives the forward axle, the other the rear axle of the truck, powerplants being located outside of the truck beyond the wheels. The axles are worm drives without differentials.

In the first installation conventional heavy duty truck engines are used. These have a bore and stroke of 5 by 5¾ in. and develop a maximum of 165 hp. each. Provisions have been made in the layout however for installation of diesel engines instead of gasoline types if desired.

The use of an automatic transmission is of course necessitated by the fact that the rail truck swings below the car and conventional link mechanisms could not be used. The shift in the transmission in question is accomplished by closing the throttle after the minimum speed at which upward shifts can be accomplished, has been exceeded.

Universal joints between powerplant and worm axle unit are of the automotive type as are brake drums. The latter are located on the wheels opposed to those at which the drive is taken from the engine. Wheels while having steel treads are of the resilient type with rubber acting in shear.

Body frame work is of welded chrome molybdenum steel tubing without bolts or rivets—similar to aircraft fuselage framework practice. Covering is a dural skin which takes only a small proportion of structural stresses.

Windows in the car are sealed, the car being air-conditioned. Heating is by means of air passing through the radiators. Safety glass is used in all windows. Rubberized hair is used for body insulation while in the trucks and engine mountings rubber cushioning members further reduce transmission of vibration and noise.

It will be noted from the illustration that the car is "streamlined" at the bottom as well as sides, ends, and top. This includes the shrouding of the trucks, only the wheels protruding when the engine shroud is in place.

While the car is constructed as a single unit, the same principles of design are adaptable for a multi-car train with units using common intermediate trucks, according to Mr. Stout.

* *Automotive Industries*, Feb. 19, 1933, page 197. Torque Reversal Shift Gears in Mono-Drive Transmission.

Works Council for Automotive Workers?

(Continued from page 384)

workers would consist of "company unions."

The type of plan now in process of development in Chevrolet plants, for example, is not a "company union," but an employee representation plan.

Mention may well be made of a few principles which, experience teaches, are desirable, regardless of the particular form of any employee plan:

1. Sincerity of purpose.
2. Simplicity of organization. Some plants have succeeded in spite of their complexity; none because of it.
3. Promptness in action.
4. Tolerance in conferences.
5. Honest preservation of the full spirit as well as the form of open, frank discussion of all problems in all conferences.

More items might be added, but these give a general basis for discussion of detailed forms.

Types of Representation

No better summary of the types of employee representation plans can be made than by quoting from a recent publication of the National Industrial Conference Board which says:

"There are two basic and distinct types. One, the joint-representation type, stresses cooperative action of management and working force and provides for equal representation and equal voting power in the council.

"The other, the employee-committee type, assumes that the employee representatives can act with greater freedom and more truly represent the working force if there are no management members of the council. . . .

"Another type of employee representation plan is known as Industrial Democracy. It provides for a House of Representatives elected from the rank and file, a Senate of foremen, and a Cabinet of executives. Introduced before the World War, it enjoyed some popularity for a time, but it proved too elaborate and cumbersome for ordinary purposes and has steadily lost ground until now only seven companies are known to have retained this type of plan."

The joint-representation plan, with a central committee or council composed of representatives of employees and management, is the type most common in manufacturing industries, the N.I.C.B. finds. This is the type used by Bethlehem Steel Co., previously referred to. Its structure is well illustrated by the International Harvester industrial council plan which provides for a works council at each plant or operation where a majority of employees vote to adopt it. It was started in March, 1919.

The basis of representation is one employee representative for each 250 to 300 employees, but in no case are there less than five employee representatives in the works council.

The employee representatives are nominated and elected by the employees by secret ballot, with voting divisions so arranged as to give due representation to all crafts and shop areas. To be eligible for nomination as an employee representative, a candidate must have been continuously in the company's service for at least a year prior to the nomination, must be employed in his voting division, must be 21 years of age and must be a citizen of the United States or, in the Canadian plants, a citizen of Canada.

The employee representatives are elected for one year.

The management representatives are appointed by the superintendent and may equal but shall not exceed the employee representatives in number. The plan of organization provides that the Manager of Industrial Relations shall act as chairman of all councils, and either he or someone designated by him presides.

The regular monthly meetings of the council are held during working hours and the Company pays employees for the time they are engaged in council business. However, employees may, if they choose, arrange for such compensation to be paid by pro rata assessment among the employees, but to date they have not exercised that right. There is a provision to the effect that special meetings may be called on three days' written notice by the chairman, the secretary, or any three members.

Questions of Industrial Policy

In its declarations and provisions the plan is very clear as to the matters that may come before the council. Its activities may embrace practically all questions of industrial policy, including the questions of wages, hours and working conditions.

The council reaches its decisions by the unit rule of voting. The employee representatives and the management representatives vote separately. The vote of the employee representatives is taken as a vote of all and recorded as their unit vote. Likewise, the vote of the majority of the management representatives is taken as the vote of all and recorded as a unit vote. Neither the chairman nor secretary has the right to vote.

When the council reaches an agreement in any matter, its recommendation is referred to the works superintendent for execution.

Much of the detail of council activities is handled through council subcommittees.

Committee Operation

As a result of the formation of these committees, matters which formerly would have been presented to the council as a whole are now presented in the form of minutes of various committee meetings, together with reports on the disposal of the various cases investigated. With the committees handling most of the routine business, the council is enabled to give the greater part of its time to the discussion of the larger and more important questions of policy affecting the whole body of workers.

It is explicitly stated in the articles of the plan that any representative serving on the works council shall be wholly free in the performance of his duties and shall not be discriminated against because of any action taken by him in his representative capacity. In case he feels there is discrimination he has the right of direct appeal to the President of the Company.

The Westinghouse Air Brake Co. has had in operation since 1919 an Industrial Relationship Plan which illustrates the form which the employee-committee type of plan may take.

In the Westinghouse system, an Industrial Relationship Committee is elected by secret ballot by the employees of each of five general divisions into which the factory has been divided for this purpose. This committee consists of 12 members. The only qualifications necessary for a nominee are that he be an American citizen, that he be able to read and write English, and that he shall have been employed continuously by the company for a period of one year prior to his nomination.

The elections are conducted by the Industrial Relations Committee and are held once each year.

Meetings of the Industrial Relations Committees are held every other Wednesday afternoon. It elects its own chairman and secretary. The Industrial Manager, representing the management, meets with the committee, is privileged to participate in its deliberations, but has no authority and no vote.

Under the direction of this chairman of its own choosing, the committee is free to discuss any matter it may please. No record is made of in-

dividual remarks on any discussion.

The companies using this type of plan, naturally, feel that an important advantage, as compared to the joint-committee type, is the scope for free discussion which it provides. Grievances are more thoroughly aired, it is claimed, than is possible when the group meets under the supervision of an officer of the company.

The minutes of all meetings covering major matters are bulletined in the shops and offices under the Westinghouse procedure.

Details of representation and method of operation of each type of plan differ from company to company, but the foregoing are fair examples of the most popular types. For the management practically interested in the detailed working out of some such plan, data available at the National Industrial Conference Board probably will furnish the best source of ready and accurate information. Even with such information available, however, alteration and adaptations to individual conditions and needs almost certainly will be necessary.

No theoretical estimate of the practical value of employee representation plans can offer as much interest in these hectic times as will the non-public opinions of executives who have had personal experience with such plans over a long period of years. Recognizing this, we sought out many of these executives by letter and by personal interview and drew from them their own ideas about the benefits, the dangers, the possibilities and the pitfalls of employee representation programs in American industry.

The list of those contacted includes some of the most important names in American industry. None of them can be quoted, for obvious reasons. The fact that these statements were not made for publicity purposes in itself increases immeasurably their value.

Executives Tell Experiences

Most of these executives were unwilling to say how they thought such plans would work in automotive manufacturing plants, but a vast majority spoke freely of their own experiences. Through almost every expression from this group ran emphasis on the spirit and subordination of the importance of the form.

"If anyone believes that he can get results out of this thing and not be fundamentally fair," runs one typical, but forcefully expressed, opinion, "he is kidding himself badly. The plan will fail immediately unless the man who operates it is fundamentally fair and also has the same sort of viewpoint on industrial problems as has the man with the instinct of true sportsmanship.

"Secondly, it is useless to have an organization of this kind in which the chairman cannot say 'yes' or 'no' and make it stick. If he has to refer everything to a board of directors or someone else, he had better save his time and not bother with employee-representation.

"The third thing is that anyone going into such a plan should expect to become more and more liberal in his attitude toward his men. A host of things will come up about which management would never know were such a plan not in force; and management must be ready to adjust such matters fairly and liberally.

Fair-Mindedness Essential

"The chief executive must be ready to be fair-minded. If he isn't, then, he had better not start any employee representation because it will go sour on his hands and he will have a good deal more ill-feeling than he would have had if no such program had ever been started."

The fact that an employee representation plan furnishes a regular, orderly means of furnishing information to employees about management problems, as well as a means of settling disputes, is stressed time and again. "The custom of furnishing company information freely to representatives has discouraged circulation of baseless or exaggerated rumors in the shops," writes the president of one company whose plan has been in force for more than 10 years.

Extremely pertinent to the present labor situation is the following statement from the chief executive of a very large company:

"Our experience has demonstrated that factory councils are a means of settling practically all the minor differences with our employees; that the settling of minor difficulties often prevents their growing into major difficulties; and that the closer contacts with our employees made possible by the factory councils make it easier to handle the major difficulties, *even when the methods of procedure prescribed by the council layout prove inadequate in handling such major difficulties.*"

Whatever the form of representation decided upon, experience points definitely toward simplicity as being desirable. A simple plan backed by honesty of intent has invariably worked better than a complex setup designed to substitute rules and safeguards for sincerity of purpose.

What effect the N.R.A. will have on those plans already long in operation cannot yet be definitely stated. It is reasonable to believe that a company in which interchange of ideas has been friendly and constant and where practical understanding exists between management and men can look forward to a continuance of harmonious relationships. In a normal, friendly manner several companies, at the request of employees, are planning to make some changes in their employee representation plans as a result of N.R.A. thinking, but the changes, it appears, are being made with satisfaction and casualness on the part of both management and workers.

There is every indication that most of the plans now in operation will continue through the present situation actively and helpfully to all concerned. Most executives who have studied the situation closely, however, are agreed that a new employee representation plan set up now for the first time is likely to have little effect on the happenings of the next few months. The management-worker relationship engendered by such a plan, they point out, inevitably is an evolutionary one, just as is any other business or personal association. Its effectiveness grows or diminishes with the length of time it is in operation. Consequently, as an immediate opportunist move, these experts think, the employee representation idea has little value for automotive plants.

BUT, as the groundwork for a new type of relationship between employees and management, these same men think that such programs might well be generated in many automotive plants. Despite the arguments against starting now, one of the best informed automotive executives on this whole subject told us the other day, the obvious future need for some such plan in every plant makes him feel that the advantages of starting now outweigh the disadvantages.

Final decision on this point must vary, of course, with individual companies and will be guided by individual situations. It is interesting, however, to note the essental virility of this whole employee representation movement since the time when it really began to come into prominence prior to the World War.

Over a Million Workers

The strong and weak points of such plans were developed from war-time experience and, following a period in which some companies introduced representation plans just because it seemed fashionable and good publicity at the time, a sound development of these methods began to take place and has continued more or less steadily until the present time.

The following N.I.C.B. figures are significant. They show the number of workers covered by employee representation plans in the United States:

1919—	403,765	1926—	1,369,078
1922—	690,000	1928—	1,547,766
1924—	1,240,704	1932—	1,263,194

These figures are particularly interesting when it is realized that the total membership of the American Federation of Labor in 1932 was 2,532,261, and that of this total only 1,251,500 by the broadest interpretation, according to the N.I.C.B., could be considered in manufacturing or mining.

There has been a definite decrease in the number of companies using employee representation plans in the last few years, the peak having been reached in 1926 when 432 such plans were in operation in the country. In 1928 the number had dropped to 399 and in 1932 to 313.

PRODUCTION LINES

Watch 'Em Grow

What with streamlining beginning to be evidenced in fish tail ends, the length of body panels is on the up and up. One job which will be announced shortly is so long that the stock presses don't have beds large enough to handle a one piece stamping. If the idea of one piece stampings spreads around, maybe we shall need bigger press beds. Anyhow it's something for press designers to think about. There may be gold in them thar hills.

New Angle

Class & Industrial Marketing gives the technological problem a new slant. When discussing the modernization of productive equipment, let's call it "labor aiding" instead of "labor saving". Which is a point well taken. Also let's call it cost reducing now instead of labor saving. The new deal doesn't contemplate a return to the ox cart and kerosene lamp. Efficiency is more important than ever if we are to pay higher wages and yet keep the price of the product within the reach of the consumer. "Labor aiding" is by way of saying that most of the back breaking toil has been eliminated and more leisure time made possible.

Wears Better

Complicated cylinders and heads for Diesel engines are being produced from a nickel iron mixture which the manufacturer considers essential to the procurement of castings free from porosity and segregation in the heavy sections, and machinable in the light sections. Better wear-resistance is also reported from this mixture which has the following analysis: Total carbon, 3.00, silicon 1.50, manganese 0.60, nickel 1.25; 35 per cent steel in the charge.—From *Nickel Cast Iron News*, September, 1933.

Black Leads

Consumer acceptance of automotive body colors continues unchanged with the advent of Fall, according to the *Automobile Color Index* for September. Black, Blue, Maroon Grey, Brown and Green represents the present order of precedence. Black continues as the most preferred color, its index being 704 as compared with 403 for Blue, the nearest competitor. A year ago Black stood at 594 while Blue was 580.

Now Available

The symposium on motor lubricants staged in New York which attracted so much discussion and comment early this year is now available in published form. A.S.T.M. has brought out a bound volume of some 121 pages containing not only the edited papers but also a complete record of the discussion. "Symposium on Motor Lubricants" may be obtained from the American Society for Testing Materials at $1.25 per copy.

Caveat Emptor

Judging only by what we hear it would seem that old second-hand production equipment taken in on certain trades between automotive manufacturers is not scrutinized very carefully as to its real value. In some instances, well nigh worn out machines hardly worth their weight in scrap iron have fetched almost 50 per cent of the original purchase price. Which makes us wonder why the serial numbers and history of these machines are not more carefully examined before the deal is closed. Certainly the financial interest of the company buying the second-hand equipment would be better protected if its own production department appraised the stuff before it was accepted.

Blue Eagle

General Johnson's Blue Eagle was designed by Charles T. Coiner, art director of the Durez advertising agency—N. W. Ayer & Sons, so says the *Durez Molder*.

Springs Back

On the Wilshire Boulevard from Los Angeles to the sea, they're trying a new device for keeping speeding motorists from leaving the road on dangerous curves. Spring steel strips, hub-high, extend around the curve—and instead of the usual crash, cars are deflected with a minimum amount of damage by this springy rail.—J. G.

MANUFACTURING MANAGEMENT METALLURGY

Labor Board Moves to End Michigan Strikes

Toolmakers in Detroit, Pontiac and Flint Affected—Organization Meetings Draw Poor Attendance

DETROIT—Several thousand tool and die workers in Pontiac and Detroit went on strike on Tuesday of this week in sympathy with workers in Flint called out earlier by the Mechanics' Educational Society. The exact number of workers involved could not be determined but the total probably does not exceed 5,000 for all three cities. Most plants in the Detroit area are affected but it is reported that generally the number of men out in individual plants is relatively small. What effects, if any, the strikes will have on forthcoming new model announcements were not ascertainable up to press time.

Efforts to mediate through local NRA boards have been unsuccessful. The assistance of the National Labor Board in Washington has been promised and its representative, John F. Carmody, is expected to arrive here today (Thursday).

According to the Mechanics' Educational Society, the main purpose of the strikes is to establish its organization as representative of the tool and die workers. The trouble started in Flint where M. E. S. called out men, particularly tool and die workers, in the Chevrolet, Buick and AC plants. About 2,000 men are said to have been affected by this call.

A meeting called by the Flint local headquarters of the A. F. of L. at which its representatives urged workers to return to work, developed bitter clashes between the rival factions.

In the meantime A. F. of L. was continuing its series of meetings of automotive workers. Slow progress was reported in unionizing efforts with meetings poorly attended. A. F. of L. leaders here felt that this was largely due to entry on the slack season of automotive production. The major meetings held in Detroit this week included a meeting of Ford employees Wednesday representing the first major attempt to form an A. F. of L. local for the Rouge plant.

August Exports Jump 59 Per Cent in Value

WASHINGTON, D. C.—August exports of automobiles, parts and accessories from the United States were valued at $8,051,309 as compared with $5,054,311 in August last year, a gain of 59 per cent. For the first eight months of 1933, automotive exports had a total value of $57,106,323 against $56,996,337 in the same period in 1932, an increase of a fraction of one per cent.

Exports of passenger cars and chassis numbered 6,516 in August as compared with 2,893 in the same month last year. In the first eight months, passenger car exports were 45,682 against 31,599 in 1932. Truck exports were 3,792 against 2,044 last year, and 23,699 in the first eight months against 16,134 in 1332.

Dealer Code Awaits OK

WASHINGTON, D. C.—The automobile dealer's code was placed before Deputy Administrator Lea today and approval by President Roosevelt is expected this week. Until approved by the President, no details concerning the code will be revealed. However, it is understood that one change provides that exclusive used car dealers shall have representation on the administrative committee. No changes are anticipated in the used car provisions, but it is possible that maximum hours will be scaled down moderately under the 48 proposed.

Federal Sales Staff Hear About New Six Wheelers

DETROIT—A three-day convention of Federal truck distributors and branch managers from all parts of United States and Canada has just been concluded at the factory in Detroit. The program featured the introduction of four new six-wheel trucks.

APEM Names Committee to Discuss MEMA Merger

DETROIT—Automotive Parts and Equipment Manufacturers, Inc., has appointed a committee to meet with a similar committee of the Motor and Equipment Manufacturers Association to consider the merger of the two associations. The A.P.E.M. committee consists of David Beecroft, Bendix Aviation, J. H. Williams of J. H. Williams & Co., and C. C. Carlton, Motor Wheel. A similar committee was appointed by M. E. M. A. president George Brunner following a special meeting of the board of that association on August 2. The M. E. M. A. committee consists of Fred Wacker, Automotive Maintenance Machinery, W. A. Albaugh, Thompson Products, and M. T. Rogers, Multibestos. All members of both committees are M. E. M. A. directors.

A meeting of the board of directors of the M. E. M. A. is scheduled for Cleveland for Sept. 29 and it is expected that the merger committees will get together at that time. It also is reported that the M. E. M. A. directors will consider general manager Eichholz' letter to General Johnson, which letter is briefed on Page 407 of this issue.

NEW

NACC to Talk Codes at Show Drawing Meeting

Donaldson Brown and R. H. Grant Are Speakers

NEW YORK—Methods of cooperating with the National Recovery Administration in the furtherance of its program will be considered by automobile manufacturers at a meeting of members of the National Automobile Chamber of Commerce in New York, Oct. 5.

Drawing for exhibit spaces at the National Automobile Shows to be held in New York Jan. 6 to 13 at the Grand Central Palace, and in Chicago Jan. 27 to Feb. 3 at the Coliseum, will also take place at the meeting.

Among the prominent automobile company executives who will participate in the program and the topics of their talks are:

Present and Future Operations Under the Blue Eagle. Donaldson Brown, vice-president, General Motors Corporation and chairman of Chamber Code Committee.

Coordinating Labor Activities with Factory Needs Under the Automotive Code. Speaker to be announced.

How Best to Cooperate with Dealers Under Their New Code. Richard H. Grant, vice-president, General Motors Corporation and chairman of the Chamber's Sales Managers Committee.

How Will Codes of Our Suppliers Affect Costs? Speaker to be announced.

Other Codes That May Affect Motor Industry.

Code for Heavy Duty Trucks Under Way

WASHINGTON, D. C.—A code covering trade practices for the heavy-duty truck field is under development for presentation to NRA. It will be recalled that such vehicles were eliminated from the motor vehicle retailing code by a revision limiting it to trucks of not more than 1½-ton capacity.

A trade practice code covering funeral vehicles and ambulances also is being prepared, and formal conferences on the fire apparatus code have been scheduled for Oct. 2.

WS

September Production Estimated to Exceed 200,000 as Retail Sales Double Last Year

Seasonal Upturn in Truck Sales Helps to Lift Output Totals—Domestic Retail Passenger Car Volume Now Expected to Reach 165,000 Against 82,000 in 1932

By A. F. Denham,
Field Editor, Automotive Industries

DETROIT—An upswing in domestic retail passenger car sales around the middle of the month provided an indication that September sales may reach 165,000 as compared with roughly 82,000 in September last year, an increase of better than 100 per cent, and an increase of 10 per cent over last week's minimum estimate.

In conformity with the upswing in sales production estimates for the month have also been increased and are now set at a total in excess of 200,000 for the fifth consecutive month. Production last September totaled only 86,500. A favorable influence on production is the continued satisfactory increases in deliveries of trucks in line with the usual seasonal pickup in commercial vehicle sales.

Pontiac retail deliveries in the second ten days of September exceeded the comparative period last year by 1,604 cars compared with a relative increase of 1,662 in the first ten days.

Oldsmobile retail deliveries for the first twenty days of September showed a gain of 150 per cent over the same period last year. Oldsmobile sales to date are claimed to represent 27.3 per cent of its price class.

Hudson-Essex sales for the week ending Sept. 16 were 51 per cent ahead of same week last year. The week showed a decided gain over previous week. September shipments to dealers will exceed same month last year by 55 per cent. Dealer stocks reported at lowest point since May 6. Approximately 800 new dealers have been added since the first of the year according to Chester Abbott, general sales manager.

Retail deliveries of Dodge passenger cars for week ending Sept. 24 totaled 2,399 as against 2,476 in previous week. Commercial car deliveries on other hand rose from 911 to 1,035. Year to date deliveries of domestic Dodge passenger cars total 64,954 and trucks 15,142.

Roos Nominated for S. A. E. Presidency

Has Been Prominent in Society and Is Chief Engineer of Studebaker

NEW YORK—Delmar G. Roos, chief engineer of the Studebaker Corp., has been nominated for president of the Society of Automotive Engineers, Inc., for the year 1934, according to an announcement by John A. C. Warner, general manager of the society.

D. G. Roos

Mr. Roos has been connected with the automotive industry continuously since his graduation from Cornell University in 1911, serving the Locomobile Co. of America in various capacities until 1925 when he resigned his position as vice-president of that company to enter the employ of the Marmon Motor Car Co. as chief engineer. A year later he became chief engineer of the Studebaker Corp., his present position.

Mr. Roos has been prominent in Society work for many years, having been vice-president of the Passenger Car Activity in 1932. He has served at various times on such important committees as the Military Motor Transport Advisory Committee (in cooperation with the Quartermaster Corps of the United States Army), the Stock Car Contest Advisory Committee (in cooperation with the American Automobile Association), and the Ordnance Advisory Committee, and he has also taken an active part in the work of the Research Committee and several divisions of the Standards Committee.

Nominations for vice-presidents of the different activities follow:

Aircraft: T. P. Wright, general manager, Curtiss Aeroplane & Motor Co.

(*Turn to page* 409, *please*)

Willys Asks for "Go Ahead" on 1934 Models

TOLEDO — Developments of the Willys 99 six-cylinder model to be placed on the market in January and some changes in design of the Willys 77 to meet 1934 requirements are contemplated in an application filed by receivers of Willys-Overland in Federal Court. They want to spend $12,000 for immediate experimental work to find out whether it will be desirable to expend $125,000 for tool changes and $300,000 for completion of changes for making the six-cylinder car. Determination would be made before December.

Receivers have asked authority also to sell 525,000 shares of Willys-Overland-Crossley, Ltd., Manchester, England, for $125,000. The stock had been carried at $285,592 but due to dollar depreciation is now held at $68,944.

Another application has been made to sell 4,600 shares common and 750 shares preferred of 1767 Broadway, Inc., for $50,000 with funds to be held in trust to pay taxes, assessments and insurance. Court indicated approval if no objections are filed.

New Car Registrations Total 173,000 in August

PHILADELPHIA—New passenger car registrations for August amounted to 173,000, as compared with 93,457 a year ago and 185,660 in July of this year, according to estimates based on returns from 39 states.

An increase over August, 1932, of approximately 85 per cent is indicated by this estimate and a decrease of about eight per cent from July of this year.

Based on these partial returns, it is estimated that Chevrolet will maintain its lead with 53,500, Ford second with 38,300, and Plymouth third with 34,200 units. On this basis Chevrolet shows an indicated increase of about 124 per cent, Ford a gain of 24 per cent, and Plymouth a substantial increase of 260 per cent.

Business in Brief

Written by the Guaranty Trust Co., New York, exclusively for Automotive Industries

There was a moderate decline in some lines of business activity last week, but on the whole the recent gains were maintained. The decline in industrial activity was checked as the details connected with the adoption and operation of various codes were cleared up. Employment and wages continued to increase, with several lines, including automobile manufacture and textiles, contributing.

Commodity Prices Rise Slowly

The Guaranty Trust Company's index of business activity for August stood at 74.3, as against 76.2 for the preceding month and 54.6 a year ago. The Company's index of wholesale commodity prices on September 15 stood at 51.0, as compared with 50.1 a month earlier and 39.6 a year earlier.

Retail Sales Improve

Department store sales in the metropolitan area of New York during the first half of September were 6.5 per cent below those a year ago. During the first half of August these sales were 3.1 per cent above those in the corresponding period last year.

Sales of 27 store chains during August were 5.7 per cent above those a year ago. The largest and most consistent gains were made by specialty and department store chains.

Construction Below 1932

Construction contracts awarded in 37 Eastern States during August totaled $106,131,100, as against $133,988,100 in the corresponding period last year, according to the F. W. Dodge Corporation. Contracts awarded during the first eight months of this year amounted to $620,937,600, as against $929,836,500 a year ago.

Power Production at New High

Production of electricity in the United States during the week ended September 16 reached a new high for the current year and was 12.7 per cent above that a year ago.

Wholesale Prices Advanced

Professor Fisher's index of wholesale commodity prices during the week ended September 23 stood at 71.6, as against 71.1 the week before and 70.9 two weeks before.

The consolidated statement of the Federal Reserve banks for the week ended September 20 showed a decrease of $3,000,000 in holdings of discounted bills and an increase of $35,000,000 in holdings of Government securities. Holdings of bills bought in the open market remained unchanged. The reserve ratio on September 20 was 66.4 per cent, as against 66.8 per cent a week earlier and 67.0 per cent two weeks earlier.

New Truck Group Files Broad Code

Provides for Local Control of Hours, Wages and Tariffs

WASHINGTON, D. C.—A broad code of fair competition covering trucking has been filed with NRA by the American Trucking Associations, Inc., the new organization formed by the merger of the American Highway Freight Association and the Federated Truck Association of America.

The code covers all for-hire truckers and such truckers who elect to come under its provisions except those users who choose to operate under the code of some other industry, provided such other code does not provide longer hours of service or lower schedules of minimum wages.

The national authority which will administer the code will consist of four representatives from each state. The authority will function through a central committee which may contact NRA through sub-committees. Local administration will be through the local representatives on the national authority.

Licensing is provided for, every member of the industry being required to register with the local administrative authorities in the areas in which he operates. Charges must be reasonably compensatory as determined for each locality and region by the corresponding local or regional code authority. Provision also is made for the setting up of inter-locality and inter-regional tariff agreements.

Hours and wages are covered in an appendix to the code, it being the intention that each locality in subscribing to the code will write its own appendix covering these points to fit local conditions. Where no such local appendix is filed, the code puts maximum hours at 48 averaged over a three-month period. Dead-heading is not included nor are hours spent on trucks fitted with sleeping compartments but not devoted to the operation of the truck. Mileage alternatives are provided, 720 miles being considered as 48 hours for tractor, semi-trailer and trailer; for truck and trailer or tractor and semi-trailer, 960 miles equal 48 hrs., while for a truck the equivalent is 1060 miles. The base minimum hourly wage is 40 cents.

Automotive Engineers to Speak at A.P.I. Meeting

NEW YORK—How the petroleum industry can help the automotive industry, and vice versa, will be one of the topics of discussion at a joint session of the refining and marketing divisions of the American Petroleum Institute, which will be one of the features of the Institute's fourteenth annual assembly in Chicago, October 24-26.

Among the prominent automotive engineers scheduled to participate in the discussions are J. B. Macauley, Jr., Chrysler; W. H. Graves, Packard, and H. C. Mougey, General Motors. They will discuss motor fuels, automobile passenger-car motor-oil recommendations and chassis lubricants. A Ludlow Clayden, Sun Oil, will talk on "How the Automobile Industry Can Help Itself by Aiding the Petroleum Industry." J. F. Winchester, Standard of New Jersey, will discuss "What the Automotive Industry Can Do to Help the Petroleum Industry," while O. C. Bridgeman, of the Bureau of Standards, will speak on "Effects of Automotive Design on Vapor Lock."

A.P.E.M. Hearing Oct. 3

WASHINGTON, D. C.—The hearing on the code of fair competition of the automotive parts and equipment manufacturing industry has been set for October 3, instead of September 26, as reported in AUTOMOTIVE INDUSTRIES last week. The hearing will be held at the Raleigh Hotel.

Ray Sherman Joins Automotive Merchandising

NEW YORK—Ray W. Sherman has been appointed vice-president of *Automotive Merchandising*. Mr. Sherman was at one time editor of *Motor World*, now combined with *Automobile Trade Journal*, and most recently was editor of *Motor*. Mr. Sherman also organized the merchandising department of the Automotive Equipment Association.

Nash Plans Big Drive on New Models for '34

Says Six Months' Output Has Been Oversubscribed

CHICAGO—With an advertising and promotion campaign more ambitious than any in 1928 or 1929, Nash Motor Car Company is preparing to push sale of its new 1934 models.

Following a series of organization meetings at Kenosha, Nash executives announced that an entire six-months production of the forthcoming cars has been "oversubscribed."

Optimism and enthusiasm of Nash representatives at the organization meetings was shared by C. W. Nash, chairman, who announces he is staking the entire resources of the concern in the new drive.

"We've been saving all through the depression," said the veteran manufacturer, "and now we have some money to spend when the prospects are good for our getting some business and we're spending it.

"We're putting out an automobile that is expensive to manufacture and we have advertising and promotion campaigns more ambitious than we ever tackled in 1928 or 1929.

"I am not setting myself up as an economist able to predict the future business trend of the nation, but you can guess my best judgment of the business outlook by the program our factory is undertaking.

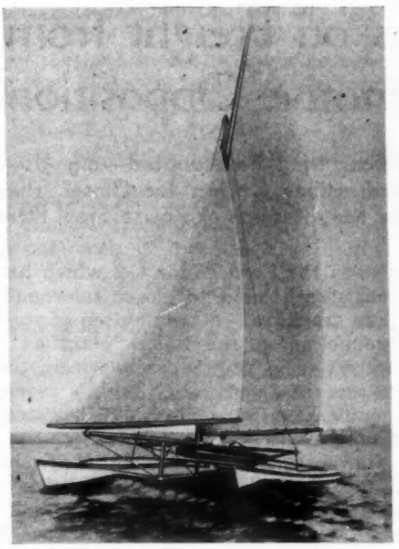
More than 6000 Nash employees and their families, drawn to Kenosha by the meeting of the organization spent the week-end at A Century of Progress, where the new Nash cars are being introduced in the glass parking tower exhibit of the company. The new 1934 models were introduced to the members of the organization at Kenosha during the week.

Wholesale Code Hearing Expected About Oct. 15

DETROIT—It does not appear likely that the automotive wholesale NRA code will be approved much before Oct. 15. It is expected that a public hearing date may be set for some time around Oct. 1 or shortly thereafter, but up to the present formal preliminary hearings have not been held. Minor revisions are still being made in the code as the result of suggestions of the analysis committee.

New Radio for B-O-P

DETROIT—A new, low-priced superheterodyne car radio is announced by A. H. Bartsch, general parts and service manager for Buick, Oldsmobile and Pontiac. It will be distributed through the dealers' service and accessory departments. It is designated as the "Air Mate."



Great things are expected of this sailing catamaran which will be raced by K. T. Keller, Dodge Brothers president, heading a syndicate of sportsman owners. The boat is the creation of Nat Herreshoff, designer of five victorious defenders of the America's Cup

Ask Curb on Chain Cut-Price Selling

NSPA Resolution Requests Parts Makers to Eliminate Discrimination in Prices

DETROIT—Price discrimination enabling chain stores and mail order houses to undersell jobbers and their dealer customers, is attacked in a resolution adopted by the Marketing Research Committee and approved by the Board of Directors of the N.S.P.A. The resolution asks: "That manufacturers who supply and sell products and merchandise to the chain stores and mail order houses, or who sell to subsidiaries handling sales on a small margin to be turned over to chain stores and mail order houses, attempt to regulate their policies so that the inequalities now existing against independent merchants and dealers may be alleviated and regulated."

Pointing out that most manufacturers utilize a suggested resale price schedule for their automotive jobbers to be governed by, the resolution asserts that many automotive parts are today being sold by the mail and chain houses at prices much lower than those recommended by manufacturers to their jobbers, both in sales to dealers and in sales to consumers, and that in many cases, prices quoted to consumers by chain and mail houses are less than the suggested manufacturer's price schedules effective for dealers.

Eichholz Protests APEM Code Control

Says MEMA and NSPA Should Have Direct Representation in Administering Provisions

NEW YORK—That administration of the code of fair competition for the automotive parts and equipment industry not be vested in one association, was urged in a letter to Administrator Johnson, signed by A. H. Eichholz, general manager of the Motor & Equipment Manufacturers Association. Mr. Eichholz suggested in a committee composed of one representative each of the National Recovery Administration, the Automotive Parts and Equipment Manufacturers, the National Standard Parts Association, the M.E.M.A. and a manufacturer not a member of any of these organizations.

In support of his contention, Mr. Eichholz said in part: "There can be no question that to place in the hands of APEM the administration of its master code, in the making of which both the MEMA and NSPA have cooperated, when APEM has a membership, deducting its members who also are members of MEMA and/or NSPA, that manifestly represents a small part of the manufacturers in an industry with literally thousands of manufacturers who would be related by law to the proposed APEM master code, would be a serious mistake from diplomatic, political, business and so many other aspects."

N.S.P.A. Convention Starts October 27

DETROIT—National Standard Parts Association will hold its two-day annual convention, Oct. 27 and 28, in the Stevens Hotel, Chicago, prior to the opening of the Automotive Service Industries Show.

"Of dominating importance on our program," says E. P. Chalfant, executive vice-president, "are the subjects relating to the NIRA codes, their administration, and their effect on both divisions of our membership."

While N.S.P.A. show and convention headquarters will be maintained at the Stevens Hotel, other official N.S.P.A. hotels will include the Congress, Blackstone, Harrison, and Auditorium.

Convention sessions will be preceded on Oct. 24, 25 and 26 by meetings of the N.S.P.A. Board of Directors, the Jobbers' and Manufacturers' Boards of Governors, and of the Finance, Membership, and Marketing Research Committees.

Carrying on a feature successfully inaugurated by the N.S.P.A. during last year's show in Detroit, the Association will again sponsor a special evening convention session for all jobber and manufacturer salesmen.

Steel Code Provisions on Freight from Base Points Stir Automotive Opposition

"Delivered in Detroit" Prices May Be Adopted—Big Users Face Surcharges on Specifications Calling for Closer Than Standard Tolerances—Ford May Resume at Rouge Steel Plant

DETROIT—While on the surface it seems that the automotive industry has adopted an attitude of watchful waiting with respect to the price situation brought about by provisions in the steel code, underneath it is to be found a spirit of resentment against the conditions set up by the code and discussions are being held as to the possibility of adopting some course of action designed to avoid or offset them.

For the time being larger consumers in the industry apparently have little to worry about except possibly on sheets since it seems that most larger producers of cars and parts have protected themselves to some extent against impending steel price increases.

Considering that the automotive industry has been the steel industry's largest mainstay during recent months, it is to be expected that a sharp drop in quality steel production may result after present commitments have been cleared by steel companies around the early part of October. It is believed in some quarters that such a drop in steel requirements and commitments by the automotive industry will have an effect on the present steel price attitude favorable to automotive manufacturers.

Basing point provisions in the steel code are, of course, particularly trying to automotive manufacturers with the high all-rail freight surcharge involved irrespective of proximity of steel sources to automotive plants. Considerable shipment of steel in the past has been made from the Cleveland district by water, with truck pick-ups also cutting in, particularly on rush requirements. Compulsory higher freight charges and the provision of fixed surcharges if steel is delivered at the basing point are meeting such strenuous objections that there is a strong likelihood that some compromise will be effected by the adoption of "delivered in Detroit" prices.

Another factor which is regarded by executives in the automotive industry as particularly disadvantageous is the provision in the steel code for surcharges on steel having closer chemical content and physical property tolerance specifications than those called for by S.A.E. standards.

Larger producers have, in many cases in the past, been able to obtain volume concessions on such tolerances from steel producers without increase in price. Such concessions apparently are outlawed by the code. A particularly bad sufferer under this provision is the Ford Motor Co. which has consistently held to closer tolerances than standard. A resumption of steel production at the Rouge plant as a protective move is entirely within the realms of probability unless some modification is worked out by steel producers.

It goes without saying that the automotive industry will do everything in its power to prevent its being burdened with the indicated higher steel prices and any advantage being taken of the situation in an attempt to raise prices beyond the increase in costs occasioned by the provisions of NRA steel code.

That there may be considerable shifting in the placement of automotive steel accounts unless there is a revision of some provisions of the steel code seems to be rather definitely established at this time, whether or not such switches involve any actual concessions.

Ford Closes Chester Plant as Men Strike

Lower Earnings on 32 Hr. Week Responsible for Dissatisfaction

CHESTER, PA. — An indefinite shut-down of its assembly plant here was the answer of the Ford Motor Co. to the strike called Tuesday morning which necessitated a suspension of operations. Advices from Detroit indicate that a similar policy will be followed if strikes develop at other Ford plants and that the plant here would not be reopened except upon the request of the workers including the strikers.

The strike here was occasioned by the reduction in weekly earnings incident to the cut in the work week from 40 to 32 hr. which was effected in all Ford plants this week to bring the average down to the 35 hr. maximum permitted by the automobile code. With a minimum day wage of $4, the effect of the decreased hours was to reduce weekly earnings of workers on the base rate from $20 to $16.

J. F. Dewey, Chester representative of the National Labor Board, reported that he had been unable to reach any agreement. It is understood, moreover, that the National Labor Board in Washington feels that the shutdown of the plant makes it powerless to act as there is no legal power to force operation of a factory.

The number of men affected by the strike is understood to approximate 2400. According to the Ford company, the strike was precipitated by about 200 men but, because of the interrelation of departments, it was necessary to close down the entire plant.

The Chester plant territory includes southern New Jersey, practically all of eastern Pennsylvania and Delaware. It also is an important export point as well as making water shipments to domestic seaboard points. An unconfirmed report indicates that the Ford company may meet the situation by transferring its water shipments to Edgewater, N. Y., and by expanding operations at Buffalo.

A demonstration of Ford workers took place early Thursday morning outside of the Philadelphia Branch building and it is reported that following it 500 left in cars and trucks for the Edgewater plant to make an effort to start a sympathetic strike.

The Philadelphia office of the American Federation of Labor stated that the Chester strike was not called by the Federation, but that a charter for a union at that plant had been issued. It was said that the strike action was spontaneous on the part of the workers. Large increases in the membership of the A. F. of L. union are claimed since the strike.

Earlier in the week complaints against the Ford company were registered with the Dearborn compliance board. Some of the workers claimed that they were dismissed while Legion men were being hired. War veterans and former Ford employees also claimed that they should be given preference. Overspeeding of production lines was another complaint. In addition, an alleged "dollar a day" welfare plan was attacked, the balance of the workers' pay being used to liquidate debts, it was charged.

Finance Companies Hold Annual Convention

CHICAGO—The plea for recognition of automobile installment paper for discount with the Federal Reserve Bank which fell on deaf ears two years ago, appeared to be gaining ground according to indications at the convention of the National Association of Finance Companies which closed in Chicago on Sept. 25.

T. E. Courtney, president of the Northern Illinois Finance Company, De Kalb, Ill., was elected president of the National Association of Finance Companies at the closing session of its convention in the Medinah, Michigan Avenue, club here yesterday.

Under terms of the code adopted by the association, all finance companies will operate under the NRA. A large percentage of companies have already reported increased salaries and added employees under the blanket code.

MEMA States Position on APEM Merger Plan

Brunner Says Members Want Credit and After Market Work Retained

NEW YORK—Charging that the statement of policy issued recently by the Automotive Parts and Equipment Manufacturers, Inc., attacked and questioned the motives of the Motor & Equipment Manufacturers Association, George L. Brunner, president of the latter organization, this week issued a bulletin to members "giving the history of merger negotiations and reasons why no merger thus far has been consummated." Copies of this bulletin also were sent to prospective MEMA members.

The bulletin states that originally it was proposed to reorganize the MEMA into one all-inclusive manufacturers' association that would not only continue existing MEMA activities, including the credit department and after-market services, but would also administer the code. At the time, it was also voted to increase the MEMA board to 18 with three members from each of six product groups, as contrasted with the board membership of six directors-at-large and one director for each product group adopted by APEM. The bulletin reveals that of 130 MEMA members who expressed opinions, 117 were against any merger except on the original conditions as outlined in the bulletin.

Mr. Brunner says in the bulletin that he is in sympathy with the idea of one association of manufacturers. He feels, however, that "a small group of original equipment manufacturers is making a determined effort to dominate the industry."

Members will have an opportunity to vote on the proposed merger at the annual meeting of theMEMA scheduled for the Blackstone Hotel in Chicago on Oct. 31.

Doman & Marks Move

SYRACUSE, N. Y.—The engine business which has been conducted by Doman & Marks, 101 Court Street, this city, will be continued by the Doman-Marks Engine Company of Amesbury, Mass., the transfer taking place as of Oct. 1.

S-W Directors Take No Action on Presidency

CHICAGO—At a meeting of directors of Stewart-Warner Corporation yesterday no action was taken on the vacancy existing in the presidency. Joseph E. Otis, Jr., executive vice-president and general manager, continues as active head of the corporation.

R. J. Graham, chairman of the board, stated: "During the last two months there has been such a gratifying increase in business of the corporation that the board of directors devoted most of its time to discussion of plans for coordinating and still further enlarging the corporation's business."

Eugene V. R. Thayer, chairman of the executive committee, was elected vice-chairman of the board of directors.

Aaron Mendelson

DETROIT—Aaron Mendelson, formerly a director and member of the executive committee of Fisher Body Corp., before the merger with General Motors, died Sept. 23 following a prolonged illness. He was 71 years old.

Mr. Mendelson joined the Fisher organization in 1909, and retired in 1926 at the time of the merger. He had also served during that time as secretary of the company.

B-O-P Offers Heaters

DETROIT — Three new winter items are announced by A. H. Bartsch, general parts and service manager for B-O-P. They include two sizes of forced-draft, hot water heaters, a "high-limit" thermostat and an antifreeze.

Roos Nominated for SAE Presidency

(Continued from page 405)

Aircraft Engines: Robert Insley, research engineer, United Aircraft & Transport Corp.

Diesel Engines: H. D. Hill, vice-president and general manager, Hill Diesel Engine Co.

Fuels and Lubricants: A. L. Clayden, research engineer, Sun Oil Co.

Motor Trucks and Motorcoaches: A. K. Brumbaugh, commercial engineer, White Motor Co.

Passenger Cars: F. F. Kishline, assistant chief engineer, Graham-Paige Motors Corp.

Passenger Car Bodies: John W. Votypka, chief engineer, LeBaron-Detroit Co.

Production: W. H. McCoy, manager, Experimental Production Machine Shop, General Motors Corp.

Transportation and Maintenance: L. V. Newton, automotive engineer, Byllesby Engineering & Management Corp.

The following have been nominated to the Council for the 1934-1935 term: J. M. Crawford, chief engineer, Chevrolet Motor Co.; J. B. Fisher, chief engineer, Waukesha Motor Co.; J. F. Winchester, coordinator and supervisor of Motor Equipment, Standard Oil Co. of N. J.

Treasurer: David Beecroft, manager, New York Office, Bendix Aviation Corp.

Steel Code Alters Buying Practices

Forward Specifications Must Be Shipped Before Expiration of Quarter

NEW YORK—Step by step, the altered position of the steel buyer under the code is being brought home to him.

Coupled with the advance of $3 per ton in the price of steel bars and of $2 a ton in that of plates and shapes, which was forecast last week, was an announcement which radically changes the character of steel contracting. Henceforth the buyer agrees to specify against the tonnage named sufficiently ahead of the end of the quarter to make possible shipment before its expiration. He can also arrange for a contract providing that he may deviate 25 per cent up or the seller 25 per cent down or for a stated percentage of his total requirements within a maximum that must be clearly set forth. These new conditions do away with the fast and loose character of steel contracts in the past when arbitrary cancellations were more or less hallowed by usage.

Another development that has come to light is that the 10 days' interval which must elapse between the filing of price changes with the American Iron and Steel Institute under the code is not to be interpreted as a protection for the buyer. Mills are not estopped by the code from at any time selling at a price higher than that filed, the ten-day clause being in effect designed to prevent price-cutting without previous notice to all producers, so that they can meet competition.

Higher production costs as the result of the rise in bituminous coal under code operation make further marking up of prices for certain steel products highly probable. Among these wire products come in for mention. Automotive alloy steels and cold-finished bars are higher to the extent of steel bar advances. Fresh buying and mill operations this week were little changed from the previous week, but a more marked stepping up in steel demand is looked for from now on.

Pig Iron—The movement of pig iron into melters' yards continues at a fair rate with the code price of $17.50 governing transactions in Middle West markets.

Aluminum—Steady and unchanged.

Copper—Consuming demand continues rather light. Some smelters are reported to be accumulating copper, but the 9c, delivered Connecticut Valley, quotation is generally maintained.

Tin—The market is wholly under the influence of exchange fluctuations. With London still on daylight saving time until the end of next week, trading with that market must be virtually completed before the opening of business here. Straits tin opened this week about ⅝c down from the preceding week's close, spot being quoted at 47¼c.

Lead—Storage battery manufacturers are buying more freely. Prices are unchanged.

Zinc—Steady and quiet.

AC Celebrates Its 25th Anniversary

Company Has 4000 Workers and Used 20 Acres of Space

FLINT, Mich.—AC Spark Plug Co. celebrated its twenty-fifth anniversary on September 23. On that date in 1908, it began operations with 15 employees in a small corner of a Buick building. From this small beginning, the company has grown to the point where it is now said to supply 71 per cent of the spark plugs used as standard equipment and it still serves every existing car maker that it supplied 25 years ago.

The company's plants have about 20 acres of floor space and its employees number 4000.

Until 1919 the company devoted itself exclusively to spark plugs, but in that year it commenced the production of speedometers. Since that it has diversified its activities steadily until at the present time it manufactures in addition Faience tile, air cleaners, die castings and die casting machinery, oil filters, gasoline strainers, fuel pumps, tachometers, ammeters, water temperature gages, oil gages, instrument panels, carburetor intake silencers and other items.

The company was founded by the late Albert Champion, who continued as its president until his death in 1927. He was followed by B. deGuichard, who was succeeded by Harlow W. Curtice as president in 1929. Wilson S. Isherwood, the company's first and only sales manager, is in his nineteenth year of service, as is Taine G. McDougal, vice-president in charge of ceramic development. The company's oldest employee is Emilio Frechette, who joined the organization in its first year.

Michigan Registrations Better Last August

DETROIT—Michigan new car registrations for August totaling 9103, representing a 20 per cent drop from July but an increase of 80 per cent over August last year. Registrations for the previous month had shown an increase of 64 per cent over last year, August totals therefore representing a continued improvement in the comparative picture.

The decline in registrations from July was rather general, the major exception being Dodge which showed a healthy increase over July sales. Graham registrations also showed a gain. Other gains were minor in character. Approximately half of the decline was accounted for by Chevrolet registrations.

Commercial cars showed a much smaller decline from the previous month, the total of 915 units representing a 13 per cent drop from July and an increase of 79 per cent over August of last year. A particularly fine showing was recorded by Dodge in commercial cars also being within 5 units of Ford truck registrations for the state, and displacing Chevrolet in second place. Chevrolet, whose registrations during July exceeded those of Ford, dropped to third place in August. Dodge, GMC and Reo registered gains over the previous month.

Borg-Warner in N. Y. Port Authority Building

NEW YORK—Distribution activities of the Borg-Warner Service Parts Company for the entire northeastern portion of the United States are being transferred to the Port Authority Commerce Building at 111 Eighth Avenue following the signing of a lease announced over the week-end for approximately 10,000 square feet, according to the Port of New York authority.

The tendency of the Borg-Warner Company is viewed by the owner as the nucleus for the location of an automotive trade center in the new structure on the block bounded by West Fifteenth and Sixteenth Streets, Eighth and Ninth Avenues.

S.A.E. Sets Dates for N. Y. Dinner and Annual Meeting

NEW YORK—Jan. 8, 1934, has been selected as the date for the annual dinner of the Society of Automotive Engineers, according to a statement made this week by John A. C. Warner, general manager of that organization. The dinner, which is the chief social event in the S. A. E. calendar, will be held in New York City, the date chosen being the Monday evening of the week of the New York Automobile Show.

In the same statement, Mr. Warner announced that the S. A. E. Annual Meeting for 1934 will be held in Detroit, Jan. 22 to 25.

Continental Salesmen Offered $10 Cash Bonus

DETROIT—A cash bonus of $10 per car is being offered by the Continental Automobile Co. to all salesmen who during the six weeks' period beginning Sept. 18 (Sept. 25 west of the Rockies), delivers at least six cars at retail and providing the dealer by whom he is employed orders cars from the factory to replace those delivered.

Frank Goes Abroad

NEW YORK—Arvid L. Frank, vice-president and general manager of Studebaker Pierce-Arrow Export Corp., sailed on the "Europa" on September 26 and will return about November 1.

2,840,888 Motorcycles in Use at End of 1932

Total Is New High Record and 3.9% Gain Over 1931

WASHINGTON, D. C.—The number of motorcycles in use, including three-wheel units, on January 1, 1933, totaled 2,840,888, a new high record, according to a census just completed by the Automotive-Aeronautics Trade Division of the Department of Commerce.

This total represents an increase of 3.9 per cent as compared with the 2,733,438 units in use on January 1, 1932, and 3.3 per cent over the total on January 1, 1931 (2,750,578), the previous record year. In the United States the registrations decreased by 6 per cent, while in all other countries combined they increased by 5 per cent.

Germany, with 810,000 vehicles, remained the greatest user of motorcycles, followed by the United Kingdom with 612,568 units. The next ranking countries were France (525,400), Italy (145,151), and the United States (100,364).

Many European countries showed increased registrations, including Belgium (61,500 on January 1, 1933, and 54,000 on January 1, 1932); Danzig (2,062 and 926); France (525,400 and 469,100); Germany (810,000 and 760,380); and Italy (145,151 and 95,518). Among the important users registering decreases was the United Kingdom, where the number of motorcycles in use dropped more than 4 per cent.

Hudson Reports Huge Export Sales Gains

DETROIT—Hudson-Essex export shipments in August were not only the highest for any August in three years, but were the largest for any month since October, 1930. The total for last month was 263 per cent of that for August, 1932, and 120.1 per cent of those for July. The first eight months of this year show export shipments that were 244 per cent of those for the corresponding period of last year and 266 per cent as compared with 1931.

Reo Self-Shifter Now $75

DETROIT—Extra cost of the self-shifter on the Reo Flying Cloud line has been reduced from $85 to $75. As formerly, it is standard equipment on the Royale line.

Raymond H. Phillips

DETROIT—Raymond H. Phillips, 66 years old, formerly general manager and secretary-treasurer of Detroit Seamless Steel Tubes Co., died September 20. Mr. Phillips retired in 1925.

Indian Announces Two New Models for 1934

SPRINGFIELD, MASS.—Indian Motorcycle Company has announced its 1934 line. The same models are continued with improvements, and prices remain the same. In the two-cylinder models, the Scout 45 and Indian Chief 74, Lynite T-slot pistons are now used, the primary drive is through a four-strand roller chain running in oil, new cylinder heads are used, with 14-mm. spark plugs, and lubrication of the engine is by the dry sump system, the oil collecting at the bottom of the crankcase being immediately returned to the tank to be cooled and filtered before being used again. In addition to these two-cylinder models the line includes the Indian Four.

Twenty-four different color combinations are being offered. All models are well streamlined, and saddles are placed low on the strong tubular frame. The new sport side-car has an all-steel body and a seating arrangement which is said to assure comfort for the occupant on long tours. The back of the seat swings forward to give access to a luggage compartment. Upholstery is in Dupont leatherwove.

Gabriel Trunk Division in Peerless Factory

CLEVELAND—Gabriel Co. has taken approximately 45,000 sq. ft. of floor space in the plant of the Peerless Motor Car Co. and established an additional production division for its form-fitting trunk. Enameling and conveying equipment in the Peerless plant are being used in trunk production.

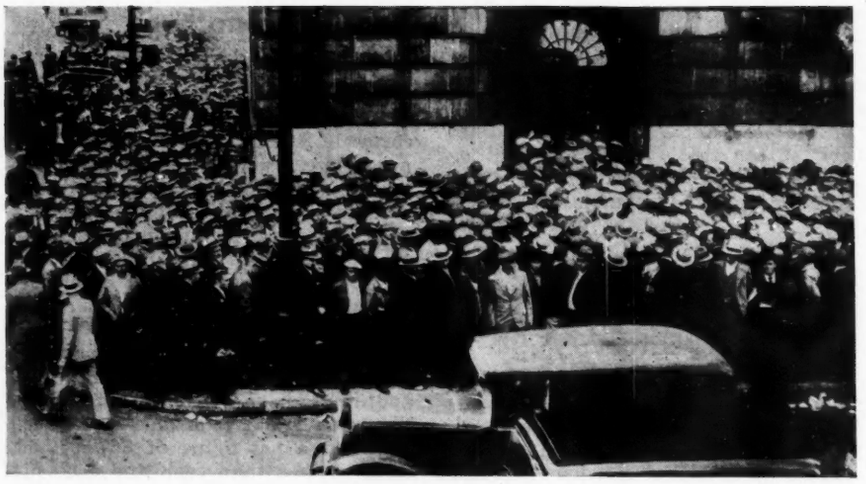
B. & D. Strengthens Financial Position

BALTIMORE—Black & Decker Manufacturing Co. since turning the corner in April of this year, has shown a consistent monthly increase in volume and earnings, although normally August is one of the dullest months of the year. Employment has increased 127 per cent since the turn in April and all classes of employees are working shorter hours and at a higher rate of pay.

The bank loans of this company, as of January, 1931, totaled $1,870,000 and in April of this year $821,275. They now stand after offsets of closed banks at a net figure of $672,979.66, which is less than cash and accounts receivable. The loans are being reduced monthly and the ratio of quick assets to current liabilities has increased to 2.72 as of August 31.

Automotive Oddities—By Pete Keenan

Write us if you know an Oddity



Jamming streets and halting predestrian and automobile traffic, thousands of veterans waited in line in front of the old Elks Club in Detroit to sign up for the 5,000 jobs promised to veterans by the Ford Motor Company

Holds Closed Shop Violates N.R.A.

WASHINGTON, D. C. — Closed union shops under which contracts were made with a single union, would violate the National Recovery Act, according to a bulletin issued by J. C. Gall, associate counsel of the National Association of Manufacturers. The bulletin also stated that employers could advise employees as to what unions to join and, within limits, could offer inducements.

G.M. Appoints MacDonald

DETROIT, Sept. 18—Kenneth J. MacDonald, formerly assistant treasurer of the Buick Motor Co., has been appointed to the comptroller's staff of General Motors Corp., according to an announcement at the Buick plant in Flint. Mr. MacDonald had been with the Buick organization for more than 13 years and became assistant treasurer 4½ years ago.

One Maintenance Code

WASHINGTON, D. C.—One code for the automotive maintenance field, covering both car dealer service stations, independent repair shops, etc., now seems probable, according to opinion here. The automobile dealers' code as revised covers only car selling.

Wagner Offers NoRol

ST. LOUIS—NoRol, an automatic mechanical device preventing the car from rolling on a grade, has been placed on the market by Wagner Electric Corp. The device functions by holding the brakes in engagement and is thrown into action when the brake pedal is depressed. It continues operative as long as the clutch is disengaged and during this period the car can roll neither forward nor backward. The device is operative only while the car is in low and reverse gear. Installations now available are for use on hydraulic brake equipped cars.

American Chain Report

NEW YORK—For the six months ended June 30, American Chain Co. reports net loss after taxes and charges of $656,753 as compared with $1,823,118 in the corresponding 1932 period.

Oil Men to Attend Chicago Service Industries Show

CHICAGO—A large attendance from oil companies and concerns operating filling service stations is positively indicated for the Automotive Service Industries Show which will be held in Chicago at the Merchandise Mart October 30 to November 3. Many of the biggest oil companies in the country have already written the management requesting credentials for the admission of their representatives.

The oil interest in the show will this year be more extensive than in preceding years due to the special effort in bringing the show to the attention of these important factors in the maintenance field. Jobbers who now include petroleum marketers among their clientele have expressed gratification over the interest indicated from the petroleum field.

The representatives of oil companies will be admitted on the invitational days, Wednesday and Thursday, November 1 and 2.

Michigan Employment Increases in August

LANSING—According to figures compiled by the Michigan Department of Labor and Industry, employment in the automobile industry during August totaled 189,878 compared with 172,757 in July and 160,944 in August, 1932. These figures are based on reports of 91 companies. Aggregate weekly payroll during August was $4,400,317 against $4,119,473 in July and $3,111,106 in August, 1932. Average weekly earnings per capita were $23.81 in August, $23.81 in July and $19.33 in August last year.

CALENDAR OF COMING EVENTS

SHOWS

National Metal Congress & Exposition, Detroit ..... Oct. 2-6
Paris Automobile Salon, Paris .. Oct. 5-15
London Automobile Show, London. Oct. 12-21
Automotive Service Industries Show, M.E.M.A., N.S.P.A., M.E.W.A., Chicago ..... Oct. 30-Nov 4
English Truck Show, Olympia ... Nov. 2-11
English Motorcycle & Cycle Show, Olympia ..... Nov. 25-Dec. 2
New York Automobile Show, Jan. 6-13, 1934
Automobile Show, Los Angeles, Jan. 6-14, 1934
Chicago Automobile Show, Jan. 27-Feb. 3, 1934

CONVENTIONS

National Metal Congress, Detroit ..... Oct. 2-6
Accessory Branch—Natl. Hardware Association, Chicago ..... Oct. 16-19
National Battery Manufacturers' Association, Sherman Hotel, Chicago, Oct. 19-21
Natl. Stand. Parts Assoc., Chicago, Oct. 27-28
International Power & Engineering Conference, New York City... Dec. 3-8

MEETINGS

Natl. Safety Council, Chicago.... Oct. 2-6
National Metal Congress, Detroit. Oct. 2-6
A.S.M.E. Meeting, Detroit, Wednesday, Oct. 4
American Petroleum Institute, Annual, Chicago ..... Oct. 24-26
Commercial Motor and Transport Vehicle Exhibition, London, England ..... Nov. 2-11
International Automobile Salon, Paris, France ..... Oct. 5-16
International Automobile and Motorboat Show, London, England, Oct. 12-21
American Gear Mfg. Association Semi-Annual Meeting, Wilkinsburg, Pa., Oct. 17-18
Natl. Battery Mfg. Assoc. Meeting, Chicago, Ill. ..... Oct. 19-21
Natl. Automobile Dealers Assoc. Meeting, New York City ..... Jan. 8
S.A.E. Annual Dinner, New York... Jan. 8
S.A.E. Annual Meeting, Detroit. Jan. 22-25